The Arris and Gale Lectures

ON THE

PHYSIOLOGICAL FACTORS INVOLVED IN THE CAUSATION OF DROPSY.

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LECTURE III.[1]

THE CAUSATION OF DROPSY.

MR. PRESIDENT AND GENTLEMEN,—Having in the two preceding lectures given a sketch of the working in the normal animal of the processes of lymph-production and lymph-absorption, I wish now to point out briefly the deviations in these processes which are found in the various pathological conditions associated with dropsy and which are responsible for the production of the dropsy. For the better understanding of this question I have drawn up a table of the various changes in the normal conditions of the body which will bring about, or help to bring about, an abnormal distension of the connective tissue spaces with lymph. In this table the changes which are the most important for the production of dropsy are italicised.

FACTORS INVOLVED IN THE CAUSATION OF DROPSY.

I.—Factors causing increased transudation:—

A. *Increased intra-capillary pressure:—*
- *a. Venous obstruction.*
- *b.* Vasodilatation.
- *c.* Plethora.

B. *Increased permeability of vessel wall:—*
- *a. Local injury* by mechanical irritants.
- ,, ,, ,, thermal ,,
- ,, ,, ,, chemical ,,
- *b. Malnutrition.*
- *c. General injury by circulating poisons* (?).

C. Watery condition of blood (hydræmia).

II.—Factors causing *diminished absorption:—*

A. By lymphatics:—
- *a.* Paralysis of limbs.
- *b.* Obstruction of lymphatic trunks.

B. By veins:—
- *a.* Venous obstruction.
- *b.* Watery condition of blood.
- *c.* Concentrated transudations.

It is important to remember that probably under no circumstances can dropsy be ascribed to an abnormal change in one of these processes. This, however, can also be said of any other diseased condition of the body. We know that the organism responds to a destruction of a considerable part of the excretory apparatus of the kidney by sending up the general blood-pressure, and so driving an increased amount of blood through the still healthy glomeruli. We cannot thus say that two-thirds of the kidneys are practically inactive under normal conditions because excision of two-thirds causes no change in the general condition of the animal or any appreciable heaping up of urea in the blood. In the same way we find that the organism has various powers of accommodating itself to changed conditions in its lymphatic apparatus, so that it is in most situations difficult to upset the normal balance—i.e., cause dropsy—by altering only one of these factors, unless the alteration be of a very extreme degree. In nearly all cases we shall find that the dropsy is due to the simultaneous alteration of two or more of these factors. In the following lecture I shall try to show, so far as our imperfect experimental knowledge allows, which of these factors are affected in the chief forms of dropsy known clinically, and also to show how the normal balance between production and absorption has been in each case upset.

The form of dropsy which is simplest in its pathology is that which is due to venous obstruction. Clinically one meets with dropsy of one extremity due to obstruction of the veins draining that part, either in consequence of pressure by growths or of thrombosis occurring in the vein itself. It would be natural to ascribe this dropsy to the increased lymph-production consequent on the raised intra-capillary pressure behind the obstruction. On investigating the subject experimentally, however, one finds that the causation is not quite so simple. Here, as in nearly all other cases, more than one factor is at work. It is a well-known fact that although obstruction of the femoral vein by a thrombus will give rise to pronounced œdema of the leg, yet ligature of the femoral vein in a healthy man may have no ill-effects whatever. On investigating the subject experimentally we find that ligature of the femoral vein, or even of the lower end of the inferior vena cava, in dogs produces no œdema of the legs. We can, however, produce an œdema if we raise the intra-capillary pressure still higher than in these experiments. Paschutin showed that ligature of all the venous trunks of the dog's leg caused œdema of the foot and ankle. Ranvier has shown that if, after ligature of the inferior vena cava, the sciatic nerve be divided on one side so as to produce dilatation of arterioles on that side, the limb in which the nerve has been divided will become œdematous. Cohnheim has shown that œdema may be brought about by injecting the veins of the leg with plaster-of-Paris We see, then, that we can produce œdema in a limb provided we raise the intra-capillary pressure to a sufficiently high point. If only one or two veins be obstructed the outflow by the collateral circulation is sufficient in a healthy animal to ward off any œdema. If the lymph be collected by placing a cannula in one of the lymphatics of the leg it will be observed that after these severe obstructions it becomes red from the presence of red blood-corpuscles. In my first lecture I mentioned that the presence of a quantity of red blood-corpuscles in the lymph showed that the rise of intra-capillary blood-pressure was, so to speak, hyperphysiological, and that one could obtain a very definite increase in the lymph-flow without the appearance of any red blood-corpuscles by raising the intra-capillary blood-pressure to a somewhat less degree. Why, then, do we not obtain œdema of the dog's leg by a simple ligature of the vena cava or femoral vein? In man we know that obstruction of either of these two vessels frequently brings about œdema of the lower extremities and that the œdema fluid present in the interstices of the tissues is colourless and free from red blood-corpuscles—i.e., corresponds to the lymph of moderate venous obstruction. The apparent discrepancy which is found here between clinical observations and the results of experiment depends on the fact which I have emphasised at the beginning of this lecture—viz., that it is impossible to upset the physiological balance, which prevents the occurrence of dropsy, by a moderate disturbance of either of the factors, lymph-production or lymph-absorption. Such an enormous rise of capillary pressure as is produced by filling all the veins of the leg with plaster-of-Paris probably rarely or never occurs under clinical conditions. The occurrence of dropsy in man in consequence of venous obstruction is nearly always due to the simultaneous working of two or more factors. We have therefore to decide, in the first place, why in a healthy animal with a moderate venous obstruction no œdema is produced; and, secondly, what are the subsidiary factors which in man combine with the venous obstruction to bring about an œdema.

In considering the first point, it is essential to remember that in the case of œdema of the limbs we are dealing with the most impermeable capillaries in the body, so that under normal conditions a considerable capillary pressure is required to separate the lymph from the blood, and the lymph so separated has lost the greater part of its proteid. I have already shown how, in consequence of this difference of composition between plasma and lymph, there is an accurate balance between the force tending to produce exudation—i.e., the capillary pressure, and the force tending to produce absorption—i.e., the difference of osmotic pressures between blood plasma and lymph. Now if in a normal animal a vein be obstructed the first effect is a rise of capillary pressure and increased exudation. Since, however, in the affected capillaries and veins the onward flow of blood is checked, the increased exudation must be at the expense of

[1] Lectures I. and II. were published in THE LANCET of May 9th and 16th, 1896, respectively.

an increased concentration of the blood plasma. This increase in concentration must cause an increase in the difference between the osmotic pressures of plasma and lymph and the absorbing force—i.e., the osmotic pressure of the plasma—will rise until it is equal to the driving-out force—i.e., the capillary pressure. In a normal dog with normal vessels the processes tending to cause œdema will be pulled up almost as soon as they have started, and no œdema will result from moderate venous congestion. It is easy now to see how we might cause œdema by venous congestion. In the normal animal the factor which restrains the appearance of œdema is the impermeability of the vessel wall, since it is this impermeability which maintains the difference in osmotic pressure between blood and lymph. If, therefore, we can increase the permeability in any way the balance of processes will be lost, exudation will predominate over absorption, and œdema will result. In my first lecture I mentioned to you several methods by which the permeability of the capillaries might be increased, with increased lymph-formation as the result. A much more trifling change in the vessel-wall than is produced by the agents mentioned in that lecture will suffice to cause marked effects on lymph-production where the intra-capillary pressure is considerably raised by venous congestion. Now it must be remembered that the capillary wall is alive and is composed of cells which have a metabolism of their own, and which, like all other cells of the body, are dependent for their proper nutrition on a free supply of oxygen and nutrient material and a free exit for their waste products. Their only function, so far as we know, is the maintenance of their integrity as a membrane with certain properties differing according to the region of the body in which they happen to be situated. If they are injured in any way the resistance of the membrane is diminished and its permeability is increased. Such an injury will follow if they be deprived for some time of fresh supply of nutrient material and oxygen. Cohnheim showed that after long-continued anæmia of the rabbit's ear the vessels became so permeable that the restoration of the normal circulation was followed by pronounced œdema of all the tissues. If the anæmia be of shorter duration no œdema is caused by restoration of the normal circulation, but can be called forth at once by ligaturing the principal vein draining the part. Now a long-continued venous obstruction must affect the vessel-walls in the same way as anæmia, since here also the cells will be starved or asphyxiated. Hence it is that in the chronic conditions which give rise to venous obstruction in man we have the production of œdema. Moreover, in the cases in man in which we obtain dropsy as the result of venous obstruction there are generally other conditions present which tend to damage the vessel-wall and so increase its permeability. Thus the mere occurrence of thrombosis points to a probable diminution of nutrition of the vascular endothelium, and occurs most frequently in patients suffering from anæmia or allied changes in the blood. The occurrence of malignant growths in the neighbourhood of a vein is, moreover, usually associated with a condition of cachexia, and therefore with an impoverished blood-supply to the endothelium. Now we have experimental evidence that the circulation of watery blood through the vessels, if continued for some length of time, alters the vessel-wall to such an extent that a moderate venous obstruction will produce œdema. I have already mentioned that ligature of the femoral vein in a healthy dog causes no œdema. Cohnheim has shown that if the dog be first rendered hydræmic by bleeding repeatedly at intervals of a few days ligature of the femoral vein will then be followed by œdema. It must be remembered that in this case we have still a third factor which helps in the production of œdema. There is no doubt that a more watery plasma will filter more easily through the vessel-wall, and the diminution of proteids in the plasma must be accompanied by a diminution of the osmotic pressure in the plasma, which is active in absorption. To sum up, we may say that œdema can never be brought about in the limbs by a moderate rise of venous pressure, provided that the capillaries retain their normal impermeability. Œdema will occur as soon as the permeability of the vessels is increased. The injury leading to this increase in permeability may be brought about in any of the following ways: (1) long-continued venous congestion (asphyxia of cells); (2) an excessive rise of intra-capillary pressure breaking down the normal resistance of the cells; and (3) mal-nutrition due to an impoverished state of the blood.

There is one method of producing œdema experimentally about which I must say a few words. Wooldridge showed that if a femoral vein in the dog be ligatured and a solution of tissue fibrinogen then injected, a considerable dropsy of the leg was produced, provided the dog survived the experiment. He ascribed this effect to the production of a disturbed relationship between the blood and the vascular wall. Now it is important to remember that the presence of fibrinogen in the blood has very little importance for the production of lymph. If we "kill" the blood by defibrinating it several times and reinjecting it, the lymph-flow from the thoracic duct remains unaltered. In this experiment of Wooldridge we have a concurrence of several factors. The most important of these is the occurrence of thrombosis in the veins of the leg, and this thrombosis is due, as Wright showed, to the fact that venous obstruction causes a heaping up of CO_2 in the blood, and therefore an increased susceptibility to the effects of tissue-fibrinogen. In repeating this experiment I have always found that the veins in the œdematous parts of the leg were thrombosed, and I am, therefore, inclined to look upon this experiment as very nearly analogous to Cohnheim's plaster-of-Paris experiment. We probably at the same time have an increased permeability of the vessels due to the poison injected, but that this direct action of the poison on the filtering membrane is of subsidiary importance is shown by the fact that if we inject the tissue-fibrinogen into a dog whose blood is defibrinated, so obviating the intravascular clotting, we escape at the same time the production of any œdema.

Much more frequent than the œdema due to local venous obstruction is the œdema which occurs as a consequence of uncompensated or imperfectly compensated heart disease. In this class of cases we have much more complicated conditions than in the class I have just discussed. The œdema of heart disease is generally looked upon as obviously due to a rise in venous pressure and consequent venous obstruction. Taking the existence of a high venous pressure in such cases as a fact, we have to inquire into the causes for this rise of pressure and whether this rise of pressure will extend to the capillaries. To investigate the causation of the dropsy in heart disease, therefore, we must first take into account the alterations in the circulation as well as the alterations in the absorption and production of lymph. The vascular system in an animal can be looked upon as a closed system of tubes having a definite capacity. If the circulation were brought to a standstill the pressures at all parts of the system would become the same. This pressure is called the mean systemic pressure, and in a dog is equal to about 10 mm. Hg. Now in such a system it is evident that the height of this mean pressure depends solely on the relation between the amount of contained fluid and the capacity of the system. If circulation be established by means of the heart's beat, the relation between the capacity and the volume of blood remaining unchanged, no alteration can occur in the mean pressure. All we have is an alteration in the distribution of the pressure. Behind the heart—that is to say, on its venous side—the pressure will sink below the mean systemic pressure; on the arterial side the pressure will be raised above the mean pressure. If after the establishment of the circulation the action of the heart pump be interfered with, as by damage to the valves, or be checked altogether, the pressures on each side will tend to return to the zero of the system—i.e., the mean systemic pressure. There will therefore be a fall of arterial pressure and a rise of venous pressure to this point. It becomes important, therefore, to know at what point in the system the pressure, while the circulation is going on, is equal to the mean systemic pressure. We find by experiment that this turning point of the circulation, so to speak, is situated in the region of the hepatic capillaries, in the abdomen, and about the level of Poupart's ligament in the femoral vein. Failure of the heart pump would therefore cause a rise of pressure in the vena cava and in the large veins of the neck, but a fall of pressure in the portal vein, in the peripheral veins of the legs, as well as in the arteries. It would seem, therefore, that failure of the heart's action, to whatever cause it may be due, can only bring about a fall of pressure in the capillaries of the intestines and peripheral parts of the body. How is it, then, that in morbus cordis we obtain such distinct signs of raised venous pressure in the peripheral parts of the body? The clue to this difficulty is, I believe, to be found in the fact that all cases of uncompensated cardiac lesions are associated with hydræmic plethora. This association has been shown actually to exist by the observations of Stintzing and Gumprecht. I wish, however, to show you how such a condition of hydræmic plethora must be

an inevitable physiological consequence of the failure of the heart pump. We have just seen that heart failure causes a fall of pressure on both sides of the intestinal capillaries and limb capillaries, so that the first effect on these capillaries must be a fall of pressure. This fall of pressure, like that consequent on artificial anæmia, will disturb the relationship between the blood and the lymph; there will be an absorption of lymph from the tissue spaces, the blood will be increased in volume, and there will be, therefore, a certain rise of the mean systemic pressure and a shifting of the neutral point towards the periphery. The first effect of heart disease on the limbs will thus be to make them less full of lymph than they normally are, and a new condition of equilibrium will be established between the capillary pressure and the lymph absorption. This sucking of fluid from the tissues will affect also the alimentary canal. The extreme thirst—i.e., the increased absorption of fluid from the alimentary canal—which follows loss of blood is a familiar phenomenon. Now this increased absorption of fluid from the alimentary canal will tend to continue until the pressure in the capillaries of the mucous membrane is restored to its normal height. We have, therefore, as the effect of heart failure an initial absorption of fluid from the connective tissues of the limbs and a continued absorption of fluid from the alimentary canal. At the same time, in consequence of the low arterial pressure, the loss of fluid to the body by way of the kidneys is diminished. The result of these last two factors is to cause a continual increase in the amount of circulating fluid—an increase which must theoretically go on until the capillary pressures in the intestines and kidneys are restored to their normal heights. The ultimate result of heart failure is a condition of hydræmic plethora and, therefore, a raising of the mean systemic pressure above its normal height. With the ever-growing balance in favour of absorption of fluid into the bloodvessels the rise of venous pressure extends further and further towards the periphery until the rise affects also the capillary pressure, and in all dependent parts of the body exudation predominates over absorption. The effect of this continued absorption is that the over-full veins present more and more blood to the heart—the heart which was unable to send onwards into the arteries even its normal quantity. It is evident that here we have a vicious circle of events tending to the death of the animal. If, however, the animal be freed from the normal struggle for existence the heart may be able to empty itself and so gradually undergo hypertrophy, and the cardiac disease may be compensated.

It is probable that in the production of the œdema of heart disease we have a concurrence of the same subsidiary factors as were mentioned when dealing with the subject of venous obstruction. In consequence of the failing circulation there is a stagnation of blood in the vessels, and the oxygenation and nutrition of the capillary walls cannot be normally carried out, so that their permeability is increased. We have here, moreover, a factor which was not present in simple venous obstruction—viz., an obstruction to the outflow by the lymphatics in consequence of the raised venous pressure at the opening of the thoracic duct. We see, then, that the production of dropsy in heart disease is by no means so simple as it at first appears, but that it is due to a complicated series of interacting mechanisms, all of which tend to the death of the organism. We may sum up the sequence of events which ensue on failure of compensation as follows:—Stage 1.—Heart-pump failure; fall of arterial pressure; rise of pressure in the venous trunks near the heart; fall of capillary pressures in the peripheral parts of the body, in the kidneys, and in the intestine; and absorption of fluid by bloodvessels from intestines and peripheral tissues. Stage 2.—Continued absorption from the alimentary canal with diminished excretion from the kidneys, and production of hydræmic plethora with rise of mean systemic pressure. This leads to Stage 3—rise of capillary pressure in all dependent parts of the body, capillaries injured by malnutrition, and excessive transudation, leading to dropsy. Stage 4.—The continued hydræmic plethora leads to ever-increasing over-filling of the heart cavities and to ultimate failure of the already incompetent heart.

I have already described to you Wooldridge's experiment on the production of œdema by the injection of tissue fibrinogen. This observer ascribed the dropsy of heart disease chiefly to an auto-intoxication of the organism by the fibrinogens contained in its lymph. Now it is apparent that the enormous rise of pressure in the liver in heart disease, which is instanced by the swelling and pulsation of this organ, must give rise to a greatly increased flow of lymph from the thoracic duct into the blood, so that we have the conditions present which are necessary for this auto-intoxication to take place. It is possible that there may be a certain amount of poisoning of the organism effected in this way, but in the light of my experiments, which I described to you recently, I do not think that this auto-intoxication can be looked upon as at any rate the chief factor in the production of the dropsy. I believe that careful experimental investigation will show that the production of the dropsy can be perfectly explained by an upset of the balance between the physical conditions which normally control filtration from, and absorption by, the bloodvessels in different regions of the body.

In these two classes of dropsy the primary factor is an alteration in the mechanical conditions of the circulation, bringing about a rise of capillary pressure and increased exudation in the part affected. In the next class with which we have to deal the primary change affects, not the intra-capillary pressure, but the vessel-wall. A change of the filtering membrane is thus produced, so that it becomes more permeable and allows, under normal capillary pressures, an excessive exudation, and the exudation is richer in proteids than is the normal lymph of the region in question. Since an alteration of the vessel-wall is one of the main features of inflammation Cohnheim has classed all œdemas in which the primary affection is that of the vessel-wall as inflammatory œdemas. In my first lecture I pointed out various means by which the permeability of the capillary wall might be increased, and showed how, under these circumstances, the limb capillaries might be reduced to the condition of liver capillaries. Here, as in all other cases in which œdema occurs, we have more than one factor at work. The capillary pressure of the part remaining at its normal height, the increased permeability allows of a largely increased exudation—there is increased lymph-production. The lymph, however, contains more proteids than normal, so that the difference of osmotic pressure between it and the circulating plasma is diminished, thereby causing a diminution of the absorbing force. In all cases of inflammatory œdema these two factors are at work concurrently—increased production and diminished absorption. This alteration of the vessel-wall may be brought about in two ways: either by the application of injurious agents to the vessels of any given part or by the introduction of poisonous substances into the blood-stream. Thus a local alteration of the vessel-wall may be caused by application of mechanical violence, crushing the tissues. It is possible that in this case we have at work, not only the direct result of the injury on the vessel-wall, but also a secondary injury of the capillaries in consequence of the development of poisonous products of disintegration in the bruised tissues surrounding the capillaries—e.g., tissue fibrinogens. We can produce the same change by exposing the tissues for a few minutes to a temperature of over 50° C. or by depriving them for some time of the normal blood-flow. All the local œdemas produced by inoculation of chemical or microbic poisons at the point of inoculation are of this nature. The swelling produced by the sting of a bee or by the inoculation of anthrax is due to the deleterious effects of the poison injected on the capillary walls at the point of inoculation. Metchnikoff has shown that the emigration of white blood-corpuscles occurring in inflammation is to be looked upon as a physiological reaction of the organism directed to its preservation, and it seems probable that the salutary import of this process may also hold good for the local œdema. As the result of the injury of the capillary walls a more concentrated lymph is poured out—i.e., a lymph containing more proteids to serve for the nutrition of the cells of the part. Whether or not this is the case, the presence of this concentrated lymph must be of great use to the organism in the regeneration of tissue which follows on inflammation.

We know less clinically of the cases in which the injury to the vessel-wall is brought about by a poison circulating in the blood. I have already described to you the class of animal poisons which were grouped together by Heidenhain as his first class of lymphagogues. I showed in my first lecture that the chief action of these bodies was on the capillaries of the liver. Their action, however, is not absolutely confined to this organ. I have experimental evidence that there is a certain degree of increased permeability of the intestinal capillaries after the injection of these bodies—an increased permeability which is brought into evidence only after raising to a certain extent the pressure in these

capillaries. These bodies, however, can also affect the capillaries of the skin. In a number of the experiments in which these bodies have been injected we may observe a rapid development of an urticarial eruption on the skin, and you are all familiar with the fact that the ingestion of the animals from which these bodies are derived (mussels, crayfish, lobster) is often followed in man by an eruption of urticaria, which may or may not be accompanied by other symptoms of poisoning. The sudden onset of urticaria and similar eruptions in man, combined with the fact that their distribution may correspond with that of a certain nerve, has given rise to the supposition that these œdemas may be nervous in origin; that, in fact, we have an increased production of lymph under the direct influence of the nervous system.

If lymph were to be looked upon as a secretion we should expect from analogy with other secretions to find it subject to the central nervous system, and at the time when I was fully imbued with the new faith, the secretory hypothesis, I made diligent search for direct evidence of the influence of the nervous system on lymph-formation. The results of my experiments were, however, opposed to such a hypothesis. In every case where nerve section or excitation gave rise to increased lymph-production in any part, I found that the increase was due primarily to a rise of capillary pressure in the part and was, therefore, only a secondary effect of the interference with the nerve. The best-marked case of so-called nervous œdema is the unilateral œdema of the tongue, which may be produced by stimulating one lingual nerve. Now the stimulation of the lingual nerve causes extreme vaso-dilatation of the vessels of the tongue, and the increased lymph-production in the tongue is evidently the direct result of this vaso-dilatation and consequently increased capillary pressure. Here, as in all other cases where one wishes to produce œdema, one must not rely simply upon one factor. In the majority of cases the œdema produced by stimulating the lingual nerve—i.e., by a simple rise of capillary pressure—is but slightly marked. One can, however, produce a very fine œdema of the tongue if one aids the filtration process and diminishes the forces tending to absorption by the injection of a large amount of normal saline solution into the circulation. I believe that all cases of so-called nervous œdema can be explained by the circulation of some lymphagogue substance in the blood combined with local vaso-dilatation, which may often be hysterical or central in origin.

One of the most important forms of dropsy—i.e., that which accompanies renal disease—was placed by Cohnheim in the category of inflammatory dropsies, and this seems a necessary conclusion in view of the fact that we are unable to trace any adequate mechanical cause, such as raised capillary pressure, for the increased transudation. We know very little more about this form of dropsy than was known in Cohnheim's time. The discovery of lymphagogues naturally suggests that the change in the vascular endothelium in Bright's disease, which leads to its increased permeability, may be due to the circulation in the blood of some poisonous substance belonging to this group of bodies. This possibility is favoured by the results of one experiment in which I injected blood serum from a uræmic patient into a dog and obtained marked quickening of the lymph-flow from the thoracic duct. The conditions in Bright's disease are, however, much too complicated for us to come to any conclusions without carrying out a long series of experiments on the subject.

This cursory examination of the alterations of physiological conditions present in the various forms of dropsy brings to light one important fact—a fact on which much stress has already been laid by Cohnheim. In all cases the primary cause of œdema is an increased transudation. The normal mechanism of absorption may for some time hold this process in check, but in all cases where the increased exudation endures any length of time subsidiary events cause a breakdown of the absorbing mechanism and the occurrence of œdema. On the other hand we know of very few cases in which œdema can be ascribed primarily to a diminished absorption. Obstruction of the lymphatics can rarely occur, owing to the multitudinous anastomoses of these canals; when a complete obstruction does occur the result seems to be rather a general hypertrophy of the connective tissues (as in elephantiasis) than a true œdema. In all cases, however, where we find dropsy we may say that in addition to the primary increased exudation there is also a derangement of some part of the absorbing mechanism.

The Annual Oration

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"THE BREAKING STRAIN."

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MR. PRESIDENT AND GENTLEMEN,—Among the many and varied phenomena presented to our observation by living beings there is no one that recurs with such persistent frequency, no one that our experience leads us so inevitably to anticipate, as that such a being will in time, whether long or short, cease to exhibit those manifestations in virtue of which we speak of it as living, or, in other words, will die. It has seemed to me that I might, and I hope without too great presumption, profitably occupy the occasion which the courtesy of the council of this society has extended to me in putting before you some considerations which are connected with the investigation of this problem. A fundamental explanation of it I do not pretend to—that were impossible, as impossible, indeed, as it is to affirm the "why" of any other "of the sense impressions distinguished by our perceptive faculty." But it at least is as capable of scientific treatment as other phenomena, whether they be associated with living or non-living material. And the collection and classification of the facts connected therewith, as well as the recognition of the sequence and relative significance of these facts, are as much called for and as reasonably to be expected as in any other problem of natural science.

The immediate practical bearing and importance of so difficult and recondite a question in physiology may perhaps be far to seek, even for a body of medical men actively engaged in the practice of their profession and eager to avail themselves of any new weapon that science may furnish them with in their contest with disease. But I think now and then a short time may be advantageously spent in the consideration of subjects which, though not of immediate practical use, do seem to furnish some principles of general application, and to suggest some lines of coherence among the many scattered and apparently isolated observations which we are so constantly recording. It is pleasant occasionally to dissipate in generalities, to see what bearing phenomena may have to one another, and indulge therein by way of relaxation from the laborious accumulation of individual facts. The Medical Society, no less than other societies which claim to be scientific, regards, and properly regards, with some hesitancy of approval the time devoted to theory and speculation. But we have to-night reached the end of an active session, and the knowledge of this as well as the recollection that my present contribution is not followed by discussion has led me to take, not, I hope, an undue advantage of your forbearance by offering some remarks upon a subject which, I fear, may have been already dubbed by some of you impractical and transcendental.

It will be well to obtain at the outset as complete an objective conception of the phenomena as we can—to ascertain and realise as far as possible the facts of the case. To begin with it is clear that we mean by death a condition of matter when it has ceased to exhibit any of the properties which we call living. For a thing to be dead implies, properly speaking, that the thing has lived, and the term is inapplicable—or should be, were we precise in our language—to material that has not been just previously living. It will be impossible, therefore, to enter on the consideration of death without some preliminary agreement in notion of what is meant by life, which, after all, is only another aspect of the same problem.

Conformably to the principles of modern science we seek—*pace* the new vitalism—to refer the investigation of "vital phenomena to their physical and chemical counterparts or analogies"[1]—to refuse, in fact, to consider vital problems as

[1] Ludwig and Modern Physiology, by Professor Burdon Sanderson, F.R.S. Science Progress, March, 1895.

understood that cannot be measured by the standards and methods employed in the investigation of physical and chemical manifestations, fully conscious that our results merely end in description and not in explanation, and result only in ranging our "perceptual experience" within the scope of postulated natural laws, and not pretending to assert a supersensuous causation. It is also obvious that to form any idea of life and its correlative death it will not suffice to confine one's attention to the higher animals and plants, still less to man only, but that to obtain a thoroughly comprehensive notion the investigation of the simplest forms of both kingdoms must be included, and so, by excluding the highly specialised functional manifestations exhibited in the most developed, ascertain what is common to all from the simplest to the most complex, thereby reducing the phenomena to their simplest terms. So regarded, we find that the essential facts of vitality as ascertained by observation, experiment, and experience are: 1. The invariable presence of a certain material of very easily recognised physical properties, but of a highly complex but as yet undetermined chemical composition and molecular structure, known as protoplasm, which recent investigation has tended to show is not so homogeneous as was originally thought, though the details of its arrangement the microscope as yet has imperfectly revealed. 2. Such material occurs in isolated and distinct particles of exceeding minuteness, probably always, even in its simplest form, differentiated into cytoplasm and nucleus—the cell; or as aggregations of such particles, frequently in association with other materials less complex in composition and not possessing the properties we call life. 3. Given this substance, we call it living when it exhibits certain special forms of energy to which the collective term "irritability" may be applied, or more specifically "contractility," "nerve power" and "secretion." They are accompanied invariably by the liberation of heat and probably always, certainly often, by electrical manifestations, both of which are identical in nature and measurable by the same means as the heat of our fires or the electricity produced by our batteries. I am not concerned now to discuss how far these living energies are mutually convertible, or whether they are or are not correlated to the associated heat and electricity; it is sufficient to say that matter which presents these characters is called living, and unless they be present life is absent. Further, it would seem that for their manifestation there must be some immediate antecedent existing agent, some stimulus, whether that be of a gross and obvious character brought to bear from outside or more subtle and obscure arising intrinsically. For the display of these properties and essentially included in the conception of life is the presence in the cell of an adequate supply of non-living material—food, whereby its nutrition, as we say, is maintained. Regarded more closely, the three-fold functions above enumerated are the outcome of, or the expression of, protoplasmic nutrition, and as they are the essentials of vitality, nutrition and life may be to that extent regarded as synonymous terms. So far what I have said is within the range of verification by observation. The simplest speck of living matter, call we it animal or plant (or multiply the difficulty by speaking of an intermediate group, the Protista), equally with the highest known organism, may be seen to move, not infrequently in a manner strongly suggestive of purpose, to avoid or pursue in its movements this or that object, to engulph other material upon which it feeds and upon the presence of which its continued existence as living matter is absolutely dependent. Equally is it known by observation and experiment no less than by experience that the manifestation of life is subject to certain conditions of the environment of the cell, conditions that are familiarly known as temperature, moisture, sunlight, and atmosphere, including a due supply of oxygen and the like, certain degrees of which are favourable, as others are fatal, to the vitality of the protoplasm. Experience provides us with no knowledge of vitality apart from these conditions, and the vital phenomena we are familiar with may be regarded as the resultant of these external influences brought to bear upon the nutritive changes taking place in protoplasm. But just as for purposes of clearness of thought and to obtain the desired objective conception of our subject we consider the intrinsic protoplasmic changes apart from the influence of the extrinsic environment, so we have further to recognise that the range of variation within which the latter is consistent with life is very considerable and that the living protoplasm has a considerable range of adaptability by which it adjusts itself to altered conditions. This power of adaptation we are in the habit of regarding as an inherent property of living matter, a factor of its vitality, just as the power of self-nutrition and the manifestation of irritability are other factors, all inextricably involved and perhaps but different aspects of one and the same. If to these qualities be added the tendency to death which sooner or later asserts itself we have a summary of the characters by which we affirm that a given object lives.

It is necessary to consider a little more in detail what was just now spoken of as nutrition to ascertain, as far as may be, the intricate nature of the processes therein included as bearing on their relation to the particular subject of my present remarks. That the living being is dependent on food, that this food undergoes certain changes in the living tissue, and that certain waste products of such changes are thrown off, are among the commonplaces of our experience and are questioned by none any more than the fact that, associated with this continuous ingestion, change, and excretion, there are evolved certain energies, some of which are peculiar to living substance. Indeed, so precise is most of our knowledge on this point that what has been called the balance-sheet of energy, in which the work done by the body (in this case the body of some one of the higher animals) is accounted for by the food-stuffs used, has been prepared with such an approach to accuracy as to justify the expectation that it will ultimately be capable of being presented in such a form as to satisfy the most critical physiological auditor. But beyond such a view—a very superficial view—of the question there remain deeper aspects of the problem where we are not nearly on such firm ground and where hypothesis and conjecture do duty at present for more positive knowledge; but so long as these hypotheses are admitted as such and are in harmony with, or at all events not flagrantly opposed to, other fundamental concepts, we may claim to be pursuing the right path, at all events for the present, and until we are brought to a stop by the proof or even strong probability that our assumptions are erroneous. It is in respect to the exact relationship which exists between the ingesta and the living elements of the tissues in the course of those changes which eventuate in the liberation of vital energy that conjecture prevails, and, as may be supposed, no single hypothesis is wholly accepted. Are we to consider that the living protoplasm, whatever may be its ultimate structure, behaves as regards the pabulum supplied to it as does a piece of machinery, say a steam engine, where the water and fuel are so disposed as to furnish steam power, with the result of a slight wear and tear of the mechanism and a discharge of waste in ashes and smoke, and that the machine is merely a suitable arrangement for effecting the required changes in the material consumed, itself undergoing no—or practically little—alteration in the process? The relationship of the living structure (mechanism) to its fuel seems scarcely so simple as this; some at least of the food-stuffs duly elaborated in the processes of digestion, in the lymph and blood channels, and, possibly, also in the liver through which they pass before reaching the tissue elements, would seem to be incorporated in the very tissue itself, to form an integral part of it, to be raised up to that height of molecular complexity and corresponding instability which pertains to the living particle, which is no sooner reached than it over-topples, so to speak, to be as continuously replaced, falling from the zenith of complexity to some more stable construction, disengaging energy in the change, and so passing from the pinnacle at which it may be pronounced living, which is no sooner reached than it breaks down into the condition again of non-living matter from which it had just been built up. In such a fashion it may be conceived that this living material is maintained, that the progressive stages of construction (anabolism or assimilation) passing over at a certain point, as yet not grasped, into a rearrangement of molecules of the destructive or catabolic order, constituting thereby a perpetual succession of interchanges, a "cyclosis in which the organism returns after every cycle to the same point of departure, ever changing yet ever the same"[2]—in fact, life itself.

It would seem that but a small proportion of the nutritive ingesta is destined to actual living tissue construction, and

[2] Address in the Section of Biology at the meeting of the British Association for the Advancement of Science, 1839, by Professor J. Burdon Sanderson, M.D., F.R.S.

that proportionately only a little of the total resulting vital energy is associated with the interchanges here postulated; but no hypothesis, as far as I am aware, has yet ventured to suggest exactly which of the specific energies are thus liberated, or, indeed, how far, if at all, they are independent of the probably less complex interchanges which take place in that major portion of the ingesta which are regarded as never becoming actual constituents of tissue, but which consist mainly of an oxidation process carried out within the range of influence of the protoplasmic metabolism. The terms "fixed" and "circulating"—the former singularly inapt—have been used to denominate these two varieties of food as it finally reaches the tissues. Such, then, in summary, is what we mean by life, the processes of which are the subject matter of the physiologist's inquiry, to become the province of the pathologist when they overstep the ill-defined line which separates health from disease. By experiment and observation, constantly aided by the progressive advance of chemistry and physics, is our knowledge becoming more accurate and precise. But at the beginning and end of the subject, so to speak, are questions to which as yet but the most uncertain answer can be offered. Given the living protoplasm, given this material with its vitality, how has it come into being, how does it come to an end? With the "why" as an explanation true science has no concern, but the "how" is its legitimate scope of inquiry. Different as these questions may be at first sight they are not, I venture to think, as different as they may appear to be, and I suspect any knowledge of the one will materially assist to a comprehension of the other.

Before proceeding to consider the nature of death, what is implied by it, and how it comes about, it is worth while to inquire whether death is an invariable termination to life, whether, in short, every being that lives does sooner or later die. If we confine ourselves to the higher forms of life the reply would undoubtedly be "Yes," but this cannot be so readily affirmed if we regard the simplest forms of existence. Here we note a close connexion between the mode of origin of life and the conditions of its termination. Universal experience shows that such beings as propagate sexually, whether animals or plants—or, in other words, beings which originate from the union of distinct sexual elements and themselves consist of aggregations of cells and cell derivatives resulting from this union—will sooner or later die, even though, so far as can be recognised, their surroundings and conditions of existence remain the same as when their vitality was at its prime. On the other hand, those organisms which reproduce by a process of fission cannot, with a possible partial exception to be presently noted, be said to die, but to continue their existence in their progeny, which primarily consists of the constituent material of their parents, the whole of the parent body being used up in the formation of the descendants. If we regard, as I think we are entitled to do, fissuring of a protoplasmic unit (cell) as the exhibition of an extreme and peculiar form of the power of contractility, which is possessed in some degree by all matter that is living (induced by some stimulus the nature of which is quite unknown), but only manifested on certain occasions, then we bring the reproductive act of these asexual organisms into line with the common properties of living matter and facilitate its consideration and description. If each resulting portion of a fissured cell continues to exhibit after its separate existence the characteristics of all living material as possessed by its parent, its power of self-nutrition with all therein implied, and its powers of adaptability within limits to varying conditions, and in due time to subdivide into two portions, each again continuing the *rôle*, then, indeed, such beings cannot be said to die except by accident and are essentially immortal. No greater difference in identity exists between parent cell and progeny than exists in the parent cell itself at successive periods of its own existence, consisting as that existence does of ceaseless changing with continuity of character. All unicellular organisms, however, do not appear to be capable of unlimited propagation by fission. It has been long known that the infusoria, which are among the highest developed of the protozoa, do after a series of such multiplications gradually exhibit a slackness in their fissuring until at length the act is no longer repeated and the individual dies. But should the infusorian meet with another of its kind in a like state of enfeeblement, and a temporary conjugation between the two occur, they will then separate, reinvigorated with a new lease of vitality, and continue their propagation by fission until again exhausted. Such a condition is one of less complete immortality than obtains in other protozoa and protophyta, but it falls considerably short of the inherent mortality that pertains to all forms of multicellular life. Among the metazoa and metaphyta by no means can senescence and death be averted, however favourable may be the conditions for their continued existence. But even then some multicellular organisms do not wholly die. The body of the individual undoubtedly perishes, but the sexual elements contained therein, and for the production and care of which the individual soma finds its chief *raison d'être*, whereby the species may be maintained, continue to live, given only suitable conditions, and the fertilised ovum resulting from these elements, consisting as it does of integral parts of the parents, develops and grows, thus maintaining generation to generation in structural continuity. Death, therefore, which is a condition only known in the higher divisions of living beings, comes to mean a cessation of some only of the activities possessed by these beings—the greater proportion of their activities it must be admitted, and those which concern the maintenance and well-being of the individual as opposed to those by which the race is continued. It is the mass of the body that dies, that which lives or can live, conditions being favourable, constituting but a minute fragment compared thereto, in the highest forms of all a mere particle, and this participates in its partner's death unless removed to suitable surroundings. I need scarcely say that I make no reference to organisms being killed, that is to say, being subjected to unfavourable conditions of the environment. Countless myriads of immortal protozoa die, but that is due to the nature of their surroundings, they do not contain within themselves the inevitable destiny of death which they cannot avoid. Similarly myriads of the equally immortal sperm and germ elements of the higher and highest developed forms perish from like causes. My remarks obviously apply to death as a natural phenomenon, and as such it has a somewhat more restricted scope than at first appears.

The relationship of the sexual element to the enveloping and protecting soma is worth a moment's thought. Possessing as it does when suitably blended a potentiality of growth and development to the parent form, and dependent on the soma for such nourishment as it may require, it nevertheless maintains a passive existence in the midst of its surroundings, waiting, so to speak, its chances, which accident may prevent from ever coming to it. Meanwhile, the body continues to exhibit the functional activities of its vitality, however simple, however complex, until these processes of themselves gradually fail and finally cease. We are accustomed to recognise in the course of existence of a living being three stages: one of growth and development, one of maintained maturity, and a third of decline and senility terminating in death. For the most part, if not absolutely, these stages are characterised by very considerable differences both in respect to the origin of life and to the cessation of it. During the first period the multiplication of the tissue elements and their individual increase in size, and more remarkably their differentiation of structure and specialisation of function, are all at the maximum, fresh living tissue elements are formed by the division of pre-existing ones, and the generation and development of material prevail everywhere, notably, however, in one situation in a laggard fashion and sometimes scarcely at all—viz., among the portions which will ultimately give rise to the reproductive elements. Their inactivity is in marked contrast to the often rapid development of surrounding structures, they multiply but little, and differentiate scarcely at all, retaining throughout this period an embryonic character, such as they have possessed since they underwent the first stages that followed their separation from their parents. At this stage, when all efforts are put forth on behalf of the individual, its reproductive power is but slight or entirely wanting, and in the natural sequence of events, and accidents apart, death is unknown. When, however, full development is attained and the individual is complete then a difference in the relative properties of these phases is seen. The efforts of the soma are directed to the maintenance of its structural integrity. The fully differentiated tissues exhibit their own functions and harmoniously work to the same end—viz., the life of the individual. Now the reproductive elements are mature, and the individual is capable of taking part in reproducing its kind. In a vast number of living beings the sexual elements are produced in the same individual, when self-fertilisation may or may not occur; in the highest forms they are borne in different

bodies; but, be that as it may, the stage of maturity is that in which the sexual power of the individual is at its maximum, the formative functions of the tissue have largely diminished or even ceased, and death again except from mischance does not occur. Finally, after this stage has lasted a certain time more or less peculiar to each species, and not, perhaps, wholly unconnected as regards duration with the length of the preceding period, the organism begins to fail in its activities, to live less perfectly, and, as we say, to grow old, the tissue elements are no longer or but imperfectly renewed, those that remain atrophy and degenerate, the power of reproduction has departed, the individual has fulfilled its destiny, it has lived and reproduced, it now remains but to die. But death now is not an accident, it is an inevitable, inexorable event. Such a course is altogether in harmony with the principles which we recognise as natural selection and the survival of the fittest. The being that has filled its mission only cumbers the ground, consumes nourishment required for those still in the fulness of their powers, and occupies valuable space; death for such is the fittest that can happen.

In this sketch of the successive periods of existence, and for the moment confining our attention to human existence, there may be noted with advantage the relation they bear to the incidence of disease. Disease, which is but a departure from normal living, such departure being detrimental or even fatal to the well-being of the individual, associated with some changes from the normal structure, ill defined in its limits because normal structure and function are ill defined and not accurately known, induced by some unsuitability in the conditions of the environment or imperfection in the original germ plasm whence the individual developed—disease, I say, has, like death, no natural connexion with the stages of growth and maturity. All maladies occurring at this time are non-natural and are, or should be, preventable, and, apart from hereditary or congenital affections, the causes of which should have been averted in the parents or should have been prevented from perpetuation, are wholly due to external influences. On the other hand, during the decline of life disease as signifying a functional shortcoming from the normal standard of the prime is a natural incident. We may be able to show that a healthy old age is free from many of the ills commonly ascribed to it and even that some not inconsiderable reparative power may be retained by the tissues; but nevertheless it is in the natural course of things for the tissues generally, some more than others, to degenerate, to become, that is to say, less complex in chemical composition and therefore more fixed and less capable functionally. One may be surprised now and then with exceptional cases in which the nervous or even the muscular energies have been unusually prolonged, just as the procreative power is occasionally sustained until an advanced age, but however long beyond the usual they may survive there is a limit to their manifestations. Did time allow it would be interesting to compare the clinical features of the diseases as they occur at these age periods, but I content myself with pointing out the normal incidence of disease, which in all cases approximates towards dissolution, as occurring simultaneously with the natural tendency to death.

If now we pass from the soma as a whole to consider the various constituent tissues as they exist in the highest forms of life we are struck by several notable circumstances. Among the varied component parts of the mature soma, all derived from the fertilised ovum and in their earliest beginnings identical in appearance, the widest range of ultimate differentiation is attained. Whilst some, such as nerve cells and muscle fibres, represent the maximum of departure from the primary embryonic elements and with that the highest specialisation of function, others, like the white blood corpuscles and the simpler cell elements of the connective tissues or of the deeper layers of some epithelial surfaces, are but slightly removed in appearance from their embryonic ancestors, have differentiated but little, and are possessed of a far inferior range of vital capability. But a further and striking contrast exists between these two groups—viz., in respect to their ability to reproduce their kind. A fully developed nerve cell or muscle fibre is not known to divide and multiply either in health or under the conditions of disease, but when once its full structure is attained by a process of continued fission and progressive differentiation the tissue element undergoes only such changes as are involved in its nutritive activity until overtaken by disease and death. Not so the simpler forms; they are constantly multiplying, much indeed as free unicellular organisms, and for the most part their successive progenies resemble almost or quite exactly the parents. With this one cannot but remember that the simpler tissue elements here mentioned appear to be equally and perhaps mutually active in effecting those reparative changes which are necessitated by accident or disease, reverting in so doing nearer and nearer to the embryonic form, and so giving rise to the healing tissue. Here, then, from this point of view, it will be seen that the highly differentiated tissue elements, like the more complex individual, invariably die, whilst the simpler forms, in proportion as they approximate to the germinal elements and as such to unicellular organisms, retain the power of multiplication and so escape from death the longest, though they have not the potentiality of developing into an entire individual such as is possessed by the germ.

From the foregoing considerations we are now in the position to make these general statements:—1. That death as an incident in the evolutionary cycle is not inevitable to all living beings. 2. That whilst unicellular organisms are immortal those of any higher grade of structure of inherent necessity die. 3. That these latter are, given favourable conditions, continuously propagated by specialised portions of their own substance, the individual itself, apart from these portions, perishing. 4. That the power of self-division and hence of perpetuation with avoidance of death is lost by cells which have advanced beyond the most rudimentary stage of differentiation, such power being restricted to those elements which retain their embryonic character and most completely by those which form the sexual elements.

From such conclusions, then, naturally follows the question which is at the root of the subject, How is it that the vital processes decline and cease after a manifestation over a tolerably definite period more or less peculiar to each species of animal and plant, peculiar to them in the same sense as a specific size or shape is peculiar? What is the immediate antecedent to the cessation of vital activity as invariably seen in sexually propagating organisms? Whence comes, and what is the nature of, the breaking strain which disrupts the ceaseless interchanges which constitute life? It may be at once admitted that no satisfactory answer can be given, and any attempt thereat, however reasonable, only pushes the question a step further back; but even that, if sure and certain, is a gain—it would be one more stage in the ascertainment of the sequence of phenomena which is the function of science, though leaving the "first cause" still unknown as being beyond the range of our perceptive faculty. To begin with, it has been shown that all protoplasm, all living matter, is not of necessity mortal. It is only certain specialised forms of protoplasm that are so distinguished, only certain individual living beings which inevitably die. If these two groups of individuals be contrasted some clearer definition of the problem may be forthcoming. In the one case the individuals consist of but single isolated and independent particles of living matter (cytoplasm and nucleus), each possessing and manifesting all the phenomena which make up life; each particle is irritable, responsive to a stimulus and exhibiting contractility (usually so disposed as to effect its locomotion) and some solvent (secretory) action on the foreign matter which constitutes its necessary food and in virtue of which its nutrition is maintained. Each particle is endowed with a certain degree of the power of adaptation to its surroundings, which in turn exerts a modifying influence upon it; and, lastly, it can and does possess the capability of self-division, splitting its entire self into two similar parts which differ from the parent individual only in bulk—a difference that is rapidly lost by simple growth from suitable ingesta.[3] Such individual beings, then, are all capable, all living, each one is complete in its vitality, and never except by accident dies.

The individual of the other group consists not of one but of many cells aggregated into colonies and masses of countless sizes and shapes; such cells, incapable for the most part of independent existence and mutually dependent for their well-being, collectively constitute the living individual. The organism thus constructed, so far as living goes, does no more than the simpler unicellular being, but it lives more perfectly, more elaborately, its vital processes of movement, of nervous manifestation, of secretion—in short, of its entire nutrition—are developed and exhibited at a higher pitch of perfection; its range of adaptability to

[3] It cannot reasonably be argued that this division into two is a virtual death of the parent individual in anything like the same sense that we speak of the death of a higher animal or plant, or that the progeny of the latter perpetuate their parents in the same sense that the resulting halves of a fissured cell do so.

the environment, of resistance or yielding to surrounding influences, may be greater, but in the long run it attains no further object than that accomplished by its simpler neighbour—viz., the propagation of its species, whilst the price it pays for its greater elaborateness of living is its inevitable death. Thus stated it would seem that the differences between these groups are of degree rather than of kind. The more complex vitality of the one is associated with a greater complexity and differentiation of structure, a subdivision of labour, that is, special functions being associated for their more perfect performance with more highly specialised structures, though these same structures, in proportion as they are differentiated, lose the power of self-division which is possessed in common with the other vital powers by the simplest form of protoplasm. These are but grades, and all intervening degrees are to be found between the highest and lowest beings. Nor is the difference as regards the incidence of death fundamental; whilst the one individual lives wholly in his immediate descendants, the other lives but in part, his own identity being lost in his death. But however much this mode of stating the case may conduce to a clearer understanding of the problem at issue, there still remains the unsatisfied question, How is it (or in common phrase, what is the cause of?) the organism, once that it has reached its maturity, in the full plenitude of its powers both for its own existence and for its own perpetuation, gradually comes to fail, grow old, and die? Why should it not, when once fully established, so continue for all time and remain immortal itself as well as perpetuated in its descendants? Wherein is the explanation to be sought? Is it in the continued effect of surrounding circumstances and conditions the adverse influence of which gradually prevails, or is it from some inherent defect in the vital processes which becomes intensified by time and constant repetition? In whatever direction the source and nature of the disturbing influence are to be looked for, it would assuredly seem to be in that same region where are to be found the conditions which determine the chemical and molecular changes that constitute nutrition and vitality itself; and inasmuch as cell division, which is the essential of propagation, is but a phase of that aspect of nutrition known as contractility, it would appear that what knowledge we may come to acquire of the intimate nature of life will equally provide us with the explanation of the conditions of its origin and of its termination, inextricably linked as these phenomena are. Conceiving as we do that the energies of vitality are the sensible expression of continuous interchange in a highly complicated material, one phase of which is a building up, or assimilation, to be succeeded at some higher degree of complexity and instability by a breaking down and disassimilation, is it in the anabolic stages that the inherent antecedent that finally arrests the metabolism, and with it life, is to be found? or is it that in the catabolic descent materials may be formed which exert a slowly increasing pernicious influence on the entire process, autogenetic poisons, in fact, that are invariable accompaniments of protoplasmic change? Or, lastly, may it be some failure in the stimulus, the existence of which is involved in our conception of this same protoplasmic activity? Conformably with our fundamental hypothesis of the nature of nutrition it is difficult to see any other direction in which to look for our desired antecedent. Expressed in terms more in accordance with our grosser conceptions of physiology, does death result from some imperfection in the nutritive material (ingesta) or in some toxic product of waste (egesta), or for want of the needful stimulus to the very changes which involve the material and determine the products? That it is the soma that dies and that the life of the soma or individual is identical with its nutrition would, consistently with our present hypothesis, make it probable that somewhere within these concepts what we are seeking is to be found.

As may be supposed, many suggestions have been offered which find their place in one or other of these categories. Some, with Mr. Herbert Spencer, have sought to explain the phenomena by assuming a failure in the nutritive supply or in the ability to appropriate the ingesta on the part of the organism, the same conditions, in fact, as those which determine the limits of size peculiar to each living being. However true this may be, it gives no explanation for the inability displayed by the tissues. Among the theories which are based upon the determining cause of death being produced in the course of the changes which constitute life may be mentioned that of Lendl. According to him the protoplasm in the course of its living forms waste products from which the germ plasm at first starting is free; as the cell divides these materials—termed by him "ballast"—are restricted to one of the resulting pair, and in the course of the subsequent growth and development of the organism those morphological units which form the perishable soma are loaded with ballast, whilst those which are destined to the perpetuation of the species, whether they be limited to the sexual elements, as is usually the case, or form a part of the general structure, as seen in some leaves—e.g., begonia—are free from the noxious material and in consequence escape death. It need scarcely be said that no proof of this hypothesis exists any more than there does of the suggestion that it is the presence of an aldehyde in living protoplasms which serves as the stimulus to its activities and that death is caused by a want of this substance. Others have assumed that the stimulus to vitality emanates from the nucleus which in the process of living becomes gradually exhausted and is finally extinguished.[4] There is one circumstance which seems to bear a very constant relation to the onset of death—viz., the reproductive effort. In very many beings this effort is made but once, and then as a rule death soon follows. In others the effort is capable of being repeated over a period (maturity) of varying length, but when it fails senescence sets in. A review of all the circumstances would seem to show that failing vitality follows the cessation of reproductive capability rather than that this latter fails because of approaching death, and, if we may speculate with others, it appears to be among the possibilities that the lacking stimulus is to be found in connexion with the sexual elements themselves—some ferment, may be, such as we assume to exist in those lately recognised internal secretions the potency and influence of which in respect to nutritive processes we are but just gaining a glimpse of. An analogue for my suggestion is perhaps to be found in the case of the thyroid and thymus glands which exercise a profound control over tissue nutrition and even over growth itself. So may it be with the reproductive organs and their products. Exhausted by their efforts to perpetuate the individual, they no longer liberate that stimulus (call it provisionally ferment, internal secretion, or what you will till more precise knowledge defines it) which is needful for the maintenance of the nutritive processes of maturity, and for lack of which the individual deteriorates and dies. May it be that there is a real truth embodied in the experiments of Brown-Séquard, however incomplete they have hitherto been in results?

Based on some such considerations as these I have put forward must be, I take it, the full comprehension of the nature of death as we are in the habit of witnessing it at the bedside. We speak of cardiac failure, of fatal intoxication, whether from within or without, of arrested nerve influence and the like, but the real meaning of such phrases, imperfect as they are and often quite inadequate to explain why death should have happened, must be somewhere in the region I have now been groping in. Moreover, the very foundations of prognosis, if not of treatment, so far as this may attempt to modify nutritive processes by drugs or other reagents, must be built upon an understanding of the intimate nature of life and the inherent causes of its failure and cessation.

A NOTE ON SURGEON-LIEUTENANT-COLONEL LAWRIE'S ADDRESS ON THE CAUSE OF MALARIA.

BY GEORGE THIN, M.D. ST. AND.

IF, as I believe, the man who stimulates interest in a new subject is a public benefactor, Surgeon-Lieutenant-Colonel Lawrie deserves the title. Amongst the many in whom such interest is excited there is almost the certainty that some few individuals will be induced to apply themselves to its study, and there is thus a great likelihood of fresh knowledge being obtained. The celebrated telegrams to the *Times* intimated to the whole world that Surgeon-Lieutenant-Colonel Lawrie was engaged in the study of malaria, and thousands of readers for the first time learnt from these telegrams that the Italian physicians believed that malaria

[4] For the discussion of various theories on the intimate nature of death see La Structure du Protoplasme et les Théories sur l'Hérédité par Professor Delage, 1895.

was caused by a parasite, and by reading them many medical men doubtless learnt for the first time that there might legitimately be two sides to this question. If I judge by my own experience, Surgeon-Lieutenant-Colonel Lawrie's lecture at Bombay, reported in the *Times of India*, the *Indian Lancet*, the *British Medical Journal*, and in THE LANCET of May 16th, has fully sustained this interest. As an evidence of this, I may remark that I have received three copies of the *Times of India* from different sources and one of the *Indian Lancet*, and some urgent requests for information as to what it all means. I am not sure that even this would have induced me to solicit the courtesy of the pages of THE LANCET were it not that, although my name is not mentioned in Surgeon-Lieutenant-Colonel Lawrie's lecture, some pungent remarks are made in it which have direct reference to a publication for which I am responsible; and I do not consider that I should be doing either myself or Surgeon-Lieutenant-Colonel Lawrie justice if I were to pass over his criticisms without remark. The reading of a paper on the Parasite of Malaria by Dr. Marshall of Rio Tinto and myself at a meeting of the Royal Medical and Chirurgical Society was used by the Council as an introduction to a discussion on the whole subject, and I undertook the duty of prefacing the reading of the paper by a short exposition of the views at present held regarding the relation of the parasite to the various forms of malarial fever. To render my remarks more intelligible I used diagrams, copied from the works of the authors whose views I endeavoured to explain, and in order that the readers of THE LANCET and *British Medical Journal* might more easily grasp the meaning of the brief reports of my introductory speech, reduced engravings of the diagrams were printed at the head of the report. Surgeon-Lieutenant-Colonel Lawrie remarks of these engravings that Laveran's bodies (the term by which he designates what we call the parasite) "are not such cells as are depicted in the pictures of THE LANCET and *British Medical Journal* of Feb. 15th, 1896. These are not correct representations of Laveran's bodies. Some of them appear to be drawn from the imagination, others, especially the rosette form, are caricatures of vacuoles and crenating or disintegrating blood-cells." Now, will the readers of THE LANCET imagine for a moment what this criticism implies? It signifies either that the person employed to make the drawings for the diagrams misrepresented the bodies he was employed to copy or that Marchiafava and Bignami are not familiar with vacuoles and crenating or disintegrating blood-cells. As a diagram is only intended to represent the leading features of a drawing, mine may not have been exact copies in every detail of the original drawings, but the references to Marchiafava and Bignami's works will show that they are correct in every important particular. If this is conceded, Surgeon-Lieutenant-Colonel Lawrie's statement can only be justified by assuming that Marchiafava, a Professor of Pathology of long and great experience, who has been studying blood for considerably more than a decade, and Bignami, the chief assistant in the Pathological Laboratory of the University of Rome, who has also been engaged for several years in the study of blood, does not know a vacuole in a red blood-cell when he sees it, and cannot recognise a crenating or disintegrating blood-cell. The mere expression of the supposition shows its absurdity. Such mistakes are possible by imperfectly instructed beginnners. Nay, I have even seen them made in illustrations of a paper on malaria (not published in Europe), but errors of this kind could not be put on record in Italy where learned societies know something of the value of the observations for whose publication they are responsible. What I have said ought to be enough to show what weight should be attached to Surgeon-Lieutenant-Colonel Lawrie's criticism, but if it is likely to serve any useful purpose I may be pardoned for observing that all the appearances in the challenged pictures, except the appearances of a sporulating crescent from Grassi and Feletti's work, have been verified by myself, and if any student of the subject who is interested will procure a copy of Dr. Marshall's and my paper he will find it illustrated by a plate which shows not only these phases but many intermediate ones. The drawings answer in the affirmative Surgeon-Lieutenant-Colonel Lawrie's question as to whether the successive stages of the development of each species of parasite shown in the reduced diagrams belong to the same body in different phases of its existence. This paper has just been published in the Transactions of the Royal Medical and Chirurgical Society, the papers in which are now to be had separately at a nominal price, and in this one, which I believe costs a shilling, will be found a coloured plate showing the different developmental stages of four varieties of the parasites of malaria. The successive phases were drawn from nature, their continuous development in a selected patient being in each case chosen for illustration. For Dr. Marshall and myself I absolutely disclaim the imputation of not being able to distinguish vacuoles and crenating or disintegrating blood-cells.

Human nature being what it is, it is impossible for any investigation to engage the attention of various observers without a certain amount of the personal element making itself manifest. Nor is this altogether to be regretted. Rivalry within certain limits whets the desire and capacity to work, and science is the gainer; but these limits are very easily passed, and I am not sure that we are not passing them now in this malaria discussion. I would hardly refer to this element in Surgeon-Lieutenant-Colonel Lawrie's paper if it did not recall a remark that is printed in the report of the discussion in London. As a corresponding impression appears to have been made simultaneously in Bombay, I may explain now that in omitting the names of English and American authors it was not from any disposition on the part of Dr. Marshall and myself to overlook the claims of Anglo-Saxon workers as compared with an undue tendency to overestimate the claims to consideration of the Italian physicians and naturalists whose views we had been quoting. Surgeon-Lieutenant-Colonel Lawrie's remark about the "devoted worshipper of parasites and foreigners," although it is not addressed to us, was probably suggested by our frequent reference to Italian names. I think these expressions are suggested by a mistaken idea. Already the modern literature of malaria has become so extensive that only the authors of bibliographies can be expected to enumerate all the men who have been industriously working at the subject. Those workers who may prove successful in adding a solid contribution to our knowledge will get the credit of their work irrespectively of authors and of nationalities. In quoting an author in my introductory speech, what was in my mind was not his nationality but what he had done. Now what are the great things that have been done in connexion with the malarial parasite? When speaking of the discovery of its existence is it possible to avoid mentioning Laveran? When speaking of the discovery of the quartan and tertian parasite as separate species is it possible to be silent over the name of Golgi? When mentioning the virulence of the irregular and pernicious fevers of Southern Italy and many other parts of the world is it possible to pass over the name of Marchiafava, who has shown that the parasite which causes them exists as a distinct variety? When discussing the crescent body, that enigmatical form, how is it possible not to explain the views of Grassi and Feletti? Not even excepting Laveran, whose position is unique, these men may from an insular point of view be spoken of as foreigners, and there are people to whom their names may not seem homely; but whatever their names and whatever their nationality both their names and their nationality are linked indissolubly with the discoveries which they have made. True they are mostly Italians, but we ought to be pleased to acknowledge that after Laveran's discovery all the important work has been done in Italy. How much of our knowledge of malaria would still be wanting in precision if it were not for the experiments by which it was shown that if the blood of a man which contains one species of the parasite is injected into the veins of a healthy man that man will develop malarial fever of the type from which the first man suffers, and that in his blood there will develop the same species of parasite that is contained in the blood used for inoculation. By these experiments the existence of separate species of the parasite of malaria was definitely established, and all these experiments were done in Italy. What is there of the first importance that so far has been done in the other countries of Europe and in America? All that we have done is to verify the work of the Italians and endeavour to find methods by which the clinical observer may more readily discover the existence of the parasite and to speculate as to the directions in which future work may throw light upon the yet unsolved problems. The great question as to how the parasite of malaria gets admission into the human body is yet unsolved and offers an attractive field for investigation to workers in four continents.

The countrymen of John Hunter, Jenner, and Lister can well afford to applaud ungrudgingly the great and laborious work of the Italian physicians, and I hope we shall hear no

more of comparisons which have nothing better to justify them than the sound of a name or a nationality.

What is the proof of a certain appearance being that of a parasite? Amongst other evidences the chief point is that an organism or organic structure grows and multiplies and reproduces its kind. This can be absolutely proven in regard to what we call the malarial parasite, and what Surgeon-Lieutenant-Colonel Lawrie thinks is a degenerative blood-cell. The proof of this is already abundantly given in the Italian writings, and an excellent *résumé* with original illustrations will be found in Mannaberg's book. A similar proof will be found in the drawings illustrating the paper by Dr. Marshall and myself, and additional evidence will be found in the plate which will shortly be published illustrating my paper on the parasite of the pernicious fever of Sierra Leone in the same volume. The whole cycle of the organism, from the nucleated spore, *not developing within the red corpuscle to begin with*, but coming in contact with it, then entering it, becoming larger, and developing in it separate nucleated spores, is illustrated in these two papers, in complete confirmation of previous descriptions, if confirmation is necessary. Surgeon-Lieutenant-Colonel Lawrie only found some of the stages in the patient whom he showed at Bombay, and the sporulating stage was not seen; but this does not justify the remark that "no evidence has been adduced to support the theory that Laveran's bodies sporulate, or, if they do, that the act of sporulation is periodic." I need not again refer to the Italian writers who have all described and drawn the sporulating parasite, but content myself with stating that I demonstrated under the microscope, at the meeting of the Royal Medical and Chirurgical Society, all the phases of the parasite, from the spore stage to the sporulating stage, and Dr. Pringle, by the use of his beautiful photographs, showed us these stages on the screen with the lantern. I shall be pleased to demonstrate these or similar preparations to anyone who has the praiseworthy curiosity to wish to satisfy himself by actual examination of microscopical preparations. The intra- and extra-corpuscular cells described by Surgeon-Lieutenant-Colonel Lawrie as being found in his patients' blood are, with the crescents, all that is usually to be found in blood taken from the finger of patients affected with the forms of malaria produced by the parasite of irregular fevers discovered by Marchiafava, and of themselves I admit their nature might be well open to discussion. If Surgeon-Lieutenant-Colonel Lawrie has not seen more than he describes in this case or shows in his diagrams I can quite understand his scepticism. But if blood is taken from the spleen in these cases the sporulating stage will be found, and it is another merit of the Italian physicians to have shown this. To satisfy oneself that the malarial parasite is indeed a parasite, having an independent cycle of existence, it is necessary to examine blood from the finger in quartan or tertian ague, or blood from the spleen in the fevers caused by hæmamœba præcox, the parasite of the summer-autumn fevers of Rome. In some cases these can hardly be found even in the spleen, and I have verified by post-mortem examination that the brain may contain numbers of parasites and the spleen and peripheral circulation be almost entirely free from them. The localisation in irregular fevers of the pernicious parasite in special organs and its rarity, or even absence, in the peripheral circulation is a reason why examinations of blood taken from the finger in fevers in India and elsewhere so often show no parasites. I have satisfied myself that it is often very difficult in Indian fevers to find a parasite in the blood from the finger, although the pigment-laden white corpuscles often show clearly the nature of the case, and are a proof that the parasite is propagating itself in the blood in some internal organ.

The first studies of the malarial parasite should be made on quartan and tertian fevers, in which all the phases can be found in the finger blood. In the irregular fevers common in India the knowledge that can be acquired from the blood from the finger is often very incomplete.

Fortunately for my present purpose it is unnecessary to follow Surgeon-Lieutenant-Colonel Lawrie in his statements regarding the formation of the formed elements of the blood. The fact that he observes a swarming movement in the white corpuscles of the frog similar to the swarming movement of pigment granules of the malarial parasite proves nothing either for or against his views. It shows the liability of very minute inert bodies to oscillate in a fluid medium. There are two kinds of movement of the minute pigment granules to be observed in the parasite. There is the active oscillation which is due to physical causes, and which is similar to a movement of minute granules often seen in leucocytes, quite different from any protoplasmic movement associated with life. There is another kind of movement of pigment in the living malarial parasite in which the granules follow each other in fixed directions, evidently indicating streams in the protoplasm, and of a totally different character from the oscillatory movement with which we are all familar, and which, I may safely say, has never been observed by Surgeon-Lieutenant-Colonel Lawrie in the white corpuscles of the frog.

Histologists are all familiar with the clear spaces seen in the fine meshwork of the protoplasm of a white corpuscle when it is examined by a high power, which Surgeon-Lieutenant-Colonel Lawrie appears to consider to be cellular in their nature. They are found in the protoplasma of amœbæ, and that they are not young cells can be shown by the fact that they contain no nuclear elements. In stained preparations it would be impossible to confound them with a sporulating parasite, in which, when the staining is properly done, each spore is seen to contain a well-marked nuclear body. (For the technique best adapted for this demonstration I refer to my paper in THE LANCET of July 6th, 1895.)

I am far from wishing to prejudice the value of Surgeon-Lieutenant-Colonel Lawrie's investigations into the development of the blood, but it cannot be estimated correctly until he gives us a more detailed description of the objects he describes than is to be found in his address, and until they are fully illustrated by coloured representations drawn to scale. As this is a field of study in which much remains to be done it is to be hoped that Surgeon-Lieutenant-Colonel Lawrie will continue the studies that he has begun with so much zeal and energy, and eventually present the results which he obtains in a form in which they can be appreciated by physiologists. His views on this subject, however, whether they are right or wrong, have no real bearing on the question of the existence of the parasite of malaria. The most characteristic form in which we see this parasite—the sporulating body—has apparently not been seen by him, and of course we cannot expect him to trace for us its development from a white corpuscle. Even the forms which he has seen he has not traced in any form of development from a white corpuscle, and only infers their genetic relation from the trifling and unimportant fact that both bodies contain minute granules in active movement. The repeated demonstrations of the development by multiplication inside the red blood cells of the young amœbæ to the formation of from eight to twenty spores, according to the species of parasite, is only got over by an unhappy attempt to throw doubt on the power to observe and to describe of a great number of highly-trained histologists and pathologists. The existence of the parasite of malaria rests on the same kind of evidence and on as good evidence as the belief that cancer is caused by an abnormal epithelial growth. The latter doctrine must have been accepted at one time by thousands of medical men, who, although they never saw a section of cancerous tissue, wisely gave their confidence to observers whom they knew to be competent. Surgeon-Lieutenant-Colonel Lawrie in his address has given no reason why a similar amount of confidence should not be given to the competency and honesty of the scores of highly-trained men in Europe and America who have described the complete development or cycle of the parasite of malaria.

It is with pleasure that I refer to Surgeon-Lieutenant-Colonel Lawrie's valuable experimental work when he injected malarial blood into dogs and monkeys. He found that this did not lead to a multiplication of Laveran's bodies, which is valuable confirmation of previous work done in the same direction.

Before closing these remarks I should like to be permitted to say something regarding what may be expected from India in relation to these studies. I do not see that we had any reason to expect much more to have been done than has been done already. Doubtless there are many medical men in India and much malaria, but there are many medical men in England and much phthisis, yet how few of them have contributed anything important to our knowledge of tuberculosis and the tubercle bacillus. I have worked at both these subjects, and it may be of some use if I say that the parasite of malaria is a much more difficult subject of study than the tubercle bacillus. I do not think anyone will add much to our knowledge of the parasite of malaria who is not a trained pathologist and has had long experience in the study of blood, whose routine duties do not leave him time for original work, as well as the opportunity of examining

patients, and who is not skilled in the use of very high powers of the microscope. These form a combination of qualities which will never be found largely represented in the members of the medical profession in any country. I believe the best thing that could be done in the present circumstances would be to send a selection of the young men chosen for the Indian Medical Service for six months to Rome or Catania, where they would not only get plenty of cases for continuous study, but would have the assistance of teachers trained in general pathology as well as specially expert as regards the parasite of malaria. Better still, perhaps, would be three months at Catania and three months at Rome, the best season at each being chosen. These men when sent to India could be specially attached to the medical schools of the large cities, charged with the duty of investigating the whole subject of malaria and of teaching the *technique* required by practitioners for diagnostic purposes. If a measure of this kind were carried through there is every reason to believe that India would in time contribute its quota to the furthering our knowledge of the disease in which, of all others, it has the greatest interest.

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THE VACCINATION LAWS.

By JOHN C. McVAIL, M.D., D.P.H.,

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JENNER performed his first vaccination on May 14th, 1796. The centenary of this event has been the subject of national celebration at St. Petersburg. In Berlin, the capital of a country in which vaccination and revaccination are practically universal and small-pox practically non-existent, Virchow and Koch and Von Bergmann and other men of world-wide reputation have held a great gathering in honour of a "benefactor of the universe." In Jenner's own country the circumstances are different. A Royal Commission on Vaccination has been in existence for nearly seven years and has not yet reported, the delay, it may safely be assumed, being due to the determination of the Commissioners to do their work thoroughly when they are at it. Compulsory vaccination in England has, however, in the meantime become a matter of local option, and in an increasing number of places the option, as expressed in the election of boards of guardians, is taking the form of non-compulsion. The growing neglect of vaccination in England is roughly indicated by the returns published annually by the Medical Department of the Local Government Board. The percentage of cases "not accounted for"—that is, infants who have neither been vaccinated nor died—was in 1872 8·8 in London and 4·5 in the rest of England. For London low-water mark was reached in 1881, when only 5·7 per cent. were not accounted for. For the rest of England the lowest year was 1875, when the percentage not accounted for was only 3·8. By 1888 the London and "rest of England" percentages had reached 10·3 and 8·2 per cent. respectively, and by 1891 (the latest year for which the data are available) the default had mounted to 16·4 and 12·9 per cent. respectively. No doubt for more recent years the results are still less satisfactory. These high figures are due mainly to neglect of vaccination in particular localities. In many places there is practically no omission to vaccinate, and such percentages as 0·0, 0·1, and 0·4 are not unknown. But in Gloucester the "not accounted for" were in 1891 no less than 84 per cent. of the total, in Keighley 83, in Leicester and Northampton 80, in Oldham 78, in Luton 77, in Kettering 75, and so on. In the metropolitan districts the worst figures are for Mile-end Old Town, 50 per cent.; for Hackney, 40; Bethnal Green, 38; Poplar, Greenwich, and Stepney, 19; and Paddington, Camberwell, and Westminster, 17. It is not my present purpose to discuss the value of vaccination and revaccination. I believe that vaccination is of essential importance as a preventive of small-pox, and that perhaps no greater physical boon than the Jennerian prophylactic has ever been conferred on humanity. It is from this standpoint that the question of the vaccination laws is here viewed.

These laws are at present utterly unsatisfactory. Though called compulsory they do not compel. At the most they offer a choice between submission to vaccination on the one hand and payment of a money penalty on the other. The enforcement of this choice is in the hands of boards of guardians, whose practice is anything but uniform. While one board insists on prosecutions and fines repeated regarding the same unvaccinated child so long and so often as a fixed age limit permits, an adjoining board may be satisfied with a single prosecution, and yet another may absolutely decline to take any action, while every election of guardians may suddenly reverse whatever custom has previously prevailed in the district. Elections *ad hoc* with all their recognised disadvantages are not infrequent. It thus results that the option to refuse vaccination without prosecution or penalty is not that of the individual, but that of the electoral division in which he resides, while if there is to be any option at all it obviously ought to be personal and not collective. Nor in districts where penalties are inflicted is the choice given between submission and penalty naturally a fair one, as the maximum fine, while bearing heavily on the agricultural labourer, is a trifle in the case of the well-to-do. Cheap martyrdom has temptations for many minds, and the vaccination laws present the opportunity for the desired notoriety. The fine imposed, however trifling, is not paid, imprisonment follows, and the subsequent release is celebrated by music from the local brass band, a demonstration, stump speeches, and a presentation. Carried away by the influence of what Carlyle, speaking Teutonically, calls "swarmery," such scenes result in the wholesale manufacture of anti-vaccination sentiment.

Another defect in the present law is that it says nothing whatever as to the thoroughness of the vaccinal operation. No fact in medical science is better attested than that the amount of protection depends largely on the sufficiency of the protective procedure. Every small-pox hospital bears witness to this, and the evidence applies to every period of life. In illustration it may be recalled that Dr. Gayton, who treated over 10,000 cases of small-pox in the metropolitan hospitals, found that in patients under fifteen years of age 706 who had "good marks" of vaccination had only 7 deaths among them, or less than 1 per cent.; while 2192 who had "bad marks," or though alleged to be vaccinated showed no marks at all, had 209 deaths among them, or over 9 per cent. Among 1504 cases admittedly unvaccinated at the same ages the deaths were 639, or 42 per cent. The amended law should provide that whoever is vaccinated should be sufficiently vaccinated. No mere sham vaccination ought to be any longer possible to swell the ranks of those who, though registered as protected, are ready to succumb to the first approach of small-pox infection.

In addition to being both irritating and inefficient the law is utterly illogical. In 1853, when the first compulsory Act was passed, the need for revaccination was not sufficiently known. The recognition of its necessity has, indeed, largely grown from the experience of the protective results of infantile vaccination following on the operation of the law of that year. Primary vaccination had previously been performed at any age, but in 1853 the systematic protection of infants was begun, and we now have learned that that protection cannot be relied on to last in full amount throughout the whole of life. And here it may be desirable to note shortly what are the teachings of experience regarding the amount and duration of vaccinal protection. Loss of protection due to a first vaccination varies with varying circumstances. If the operation be performed in infancy then its influence appears to be gradually weakened or diluted by the growth and development of the tissues and increase in bulk of the body. If it be performed later in life, when development is approaching completion or is already complete, its influence is much more lasting. If, therefore, revaccination be desirable, say, at ten years of age, it does not follow that a third and fourth vaccination should be done at twenty and thirty years of age, and so on. In Germany since 1874 vaccination has been compulsory both on males and females in infancy and again at eleven or twelve years of age. On healthy males a third vaccination is performed when they enter the army, but no evidence has yet been produced of excessive prevalence of small-pox among the female population of Germany through their want of a third vaccination. All the same, circumstances may arise—such as exposure to the infection of epidemic small-pox in a given population—rendering a third vaccination a wise precaution in adult life, if the second vaccination has been done a very long time previously. But the mention of ten to twelve years of age as the proper time for a second

vaccination is apt to mislead. It is not to be assumed that the influence of infantile vaccination has disappeared by that age. The diminution of protective power is graduated both as to quality and time. The first manifestation of the drift towards small-pox consists in a return of susceptibility to the local effect of vaccination. Immediately after the completion of the vaccinal process there is no reaction to the insertion of vaccine virus. But by-and-bye a successful local vaccination becomes possible, so that it was found in Bordeaux that attempts to revaccinate at six years of age were in 40 out of every 100 children successful in producing the vaccine vesicle. This does not mean that these children were susceptible to infection of small-pox in the ordinary way. In the Sheffield epidemic of 1887 in houses actually invaded by small-pox, and where the activity of the small-pox poison was manifested by the fact that about 90 per cent. of unvaccinated inmates were seized by the disease, it was found that among the vaccinated inmates of the same houses the attacks between ten and fifteen years of age were not 98 per cent., as in the unvaccinated inmates at that age, but only 25 per cent.; and between five and ten years of age not 92 per cent., as in the unvaccinated at that age, but less than 10 per cent. Thus susceptibility of the vaccinated to attack by small-pox returns at a later age than does susceptibility to the local effects of the vaccinal operation. But this is not all, for resistance of the vaccinated to *death* by small-pox outlasts very considerably resistance to *attack* by small-pox. At Sheffield under twenty years of age the percentage of deaths to attacks among the vaccinated ranged from 0·8 to 2·2; between twenty and thirty years the percentage was 5·4; and it was only over thirty years that the deaths reached 10·6 per cent. of the attacks. Yet such percentages both of attacks and deaths furnish abundant evidence of the need for revaccination. The liability of 25 per cent. of persons over ten years of age to be attacked, and the further liability of a small fraction of this 25 per cent. to die from small-pox, make the age of from ten to twelve years a proper time during which to renew the protection. I repeat, therefore, that the present law is utterly illogical in so far as it takes no cognisance of the need for revaccination. The protection of adults is as important as the protection of children, and whatever degree of insistence should be maintained in respect of infantile vaccination should also be maintained in respect of revaccination.

What degree of insistence ought to be maintained? That, no doubt, is one of the principal questions, if not the principal question, before the Royal Commission. The object of the Legislature should be to get as many persons as possible as well vaccinated as possible. That object, however, should be carried out in accordance with the spirit which governs present-day legislation in England. Russian methods are not for these realms, and the ways of the twentieth century will not be those of the tenth. There is even a difference since 1853, when the first obligatory enactment was passed. In this connexion due weight, but not more than due weight, must be given to the existing opposition to vaccination in many parts of the country. As regards compulsory vaccinal legislation, it is beside the point to argue that the anti-vaccination movement is carried on mainly by cranks, and that the public is simply being gulled by their persistent misrepresentations and mis-statements. All that, and much more, may easily be granted without altering the hard fact that a very appreciable number of people have been misled into doubting or denying the value of vaccination, and into the fear that vaccination may cause all kinds of unknown evils to their children. A still larger number of persons, while not themselves objecting to vaccination, object to the prosecution and penalising of their neighbours who have "conscientious objections" to the operation. In quite a number of localities, as has already been indicated, the law is at present a dead letter, and in at least a few of these it is probable that it could not be generally brought into operation again excepting by forcibly taking the child from the mother's arms and vaccinating the child in spite of her protests. It goes without saying that this course is repugnant to all present-day notions, and is in itself altogether objectionable.

The law, therefore, must allow some degree of option. How little and how much? *In limine*, a clear distinction must be drawn between the conscientious objector and the parent who is merely indifferent. The former, utterly wrong though he be, must have his scruples yielded to. On his behalf, and in the best interests of vaccination itself, I would abolish, not only imprisonment for unpaid fines, not only repeated prosecutions and penalties, but all prosecutions and penalties whatsoever directed against any man for refusal to allow vaccination of those for whom he is responsible. But what is to become of the protection of children whose parents are merely indifferent, to whom the whole question is the trouble, first of making up their minds to do a particular thing on a particular day and then of carrying out their intention so formed? For them, and also incidentally for the conscientious objector, the inconvenience attending on refusal of vaccination must be made at least as great as the inconvenience of going to the station for vaccination and a week later going a second time to have the vaccinated arm inspected. A national register of the unvaccinated should be established, and in order to get a name entered in this register the parent or guardian should have to go personally to a magistrate and make a sworn affidavit of his conscientious objection to vaccination. Having got a certificate from the magistrate he should then have to go personally to the registrar's office to have the necessary entry made there. No doubt the whole procedure could be made so elaborate as to be no less troublesome than that involved in the vaccination itself. It may be suggested here that a registration fee should also have to be paid, but this might be looked on as a fine, and my own view is that money fines for "conscientious objection" should be abolished.

Several advantages would belong to some such system as this: (*a*) It would be possible to enact that if vaccination were to be done at all it would have to be sufficiently done. There would be no hardship in insisting on a given number of insertions or of a given area of insertion when every parent would have the right of declining vaccination altogether. (*b*) The result would be that those who were themselves thoroughly protected would have no cause for fear from small-pox among the unvaccinated. At present there is in the presence of small-pox constant anxiety as to the risks of children who have been only imperfectly and insufficiently vaccinated. (*c*) The different behaviour of small-pox as between the vaccinated and the unvaccinated would, as a consequence of the increased efficiency of the vaccinations and of the registration of the unvaccinated, be demonstrated even more clearly than at present, and statistics on a national scale would soon be available for the consideration of conscientious objectors whose judgment might be capable of being influenced by facts. (*d*) The supply of martyrs in the cause of anti-vaccination would cease. No satisfactory amount of local indignation and enthusiasm could be got up for a parent whose worst hardship would consist in the infliction of a fine for his refusal to call on a magistrate and a registrar to get his conscientious objections recorded. I do not suggest that all the leaders of the agitation would be either satisfied or silenced; but the opposition to vaccination, fanned as it is by tales of martyrdom and by the whole system of prosecutions and penalties for non-vaccination, would largely die out in spite of all efforts to maintain it. (*e*) But another consideration, much more important than any of these, remains to be adduced. Compulsion being abolished, the above-described alternative of vaccination, or registration of non-vaccination, could and should be made universally applicable, not only to infants, but also at ten or twelve years of age. In this way a national system of revaccination would be established on exactly the same lines as the proposed system of infantile vaccination. Whether an infant had been originally vaccinated or registered as unvaccinated, the law ought again to come into operation on the child reaching the age of, say, twelve years. If the child had been primarily vaccinated the option would now be between revaccination on the one hand and registration of conscientious objection to revaccination on the other. If the child had been originally registered as unvaccinated the parent or guardian would now require to make the choice between primary vaccination of the child of twelve and renewed registration of conscientious objection. The ultimate effect of this renewed offer would be to add immensely to the total amount of vaccinal protection in this country, and I am inclined to believe that the gain in revaccination would more than atone for any diminution in primary vaccination which might be a first effect of alteration of the present law. However that may be, the new law would at least be logical in recognising the fact that revaccination is a necessity in addition to primary vaccination. At present there are hundreds of thousands of persons in this country who have a "pious opinion" that revaccination is an essential precaution

against small-pox. But the precaution is delayed indefinitely owing to its never being brought before them as a duty requiring immediate performance. Under the system as here set forth this off-putting would come to an end. One administrative difficulty suggests itself as to this scheme—namely, the ascertaining of the exact time of each child's reaching the age for revaccination. How this is done in Germany I do not know, but with the aid of school boards and of the census (which, by the way, ought to be quinquennial and not decennial) there should be no insuperable obstacle. There is yet another set of circumstances in which the law should again interfere to obtain, with regard to unvaccinated and unrevaccinated persons, either a declaration of conscientious objection or submission to the protective operation. When small-pox threatens to become epidemic in any community the Local Government Board should have power to issue an order bringing into force this provision of the suggested Vaccination Act, and it is certain that great benefit would result. In any large city where agitation against vaccination has been active and effective, at any given date there might be found even under the new law a large number of children who had been registered as unvaccinated, and a large number of persons over twelve years old who had been registered as unrevaccinated. It may be urged that in the case of a local epidemic of small-pox even under the new law there should be a resort to penalties for non-vaccination, and that here at least it would be the bounden duty of the State to compel the operation. That is a view from which, on the whole, I would dissent. Having once adopted the principle that there should be no money penalties for non-vaccination the principle should be adhered to. But the fact is that in the presence of actual small-pox "conscientious objections" are apt to be set aside, and many parents would not care to take the responsibility of again refusing on behalf of their offspring the proffered protection. With regard to such persons it is easy to say, "Serve them right; let them get the small-pox"; but the object of the State must be to afford protection wherever it will be accepted, even to those who, in the absence of the bane, have declared their disbelief in the antidote. And always it has to keep in view that the main sufferers from anti-vaccination are the little children, the helpless victims of the wrong-headedness of their parents. In a stricken community the offer of vaccination would not of course be withheld even from adults who already, both in infancy and at twelve years of age, had undergone the operation.

In revising the vaccination laws it is important that everything possible should be done to allay fears as to possible evil consequences from the operation. In England the total number of births in any year is about 900,000 and the number of deaths from all causes under one year old is about 140 for every 1000 births, or, in other words, of 1000 children born only 860 reach one year of age. The mortality is greatest of all in the first months of life. The age fixed by law for vaccination in England is under three months, and as the vaccinal process, dating from the operation to the fall of the crust, occupies about three weeks, it is obvious that a considerable number of deaths from ordinary infantile ailments must occur "under vaccination," and it may be assumed that, at least in places where there is an organised opposition, in the case of many of these deaths vaccination has to act as the scapegoat. That will be the case to some extent no matter at what age the operation is performed, but there is no reasonable doubt that vaccination would be less blamed if the operation were deferred until death had done its work among the weakly and ailing under one year of age. Among the survivors most of the cases of skin eruption due to dentition would by that time have developed themselves, so that here, too, the *post hoc propter hoc* argument of vaccinal origin of such cases would not be available. In Scotland the vaccination age is six months, not three months, as in England, and there certainly is much less opposition to vaccination in the northern kingdom, though to what extent the age question is a factor here it is difficult to say. Anyhow, there is a sentimental objection to operating on babies a few weeks old, and I am of opinion that vaccination should not be insisted on until the child is about to complete its first year. In presence of small-pox, however, the Local Government Board should have power to issue in any locality an order fixing the compulsory age at three months or six months. In Germany the operation has to be done during the first calendar year following the birth of the child. Thus a child born any time between Jan. 1st and Dec. 31st, 1896, must be vaccinated some time between Jan. 1st and Dec. 31st, 1897, so that the average age is probably a little under eighteen months.

While there is nothing of any importance that human beings can do which is absolutely without risk of some sort, vaccination is yet an exceedingly safe proceeding. Taking all the death registrations in which it is mentioned as having any part in the matter (and in many of such cases it is a mere incident), there are not much more than one-twentieth of the deaths set down to it that are set down to the suffocation of children by bedclothes. Nevertheless, as a result mainly of an active propaganda, vaccination has in some districts to bear the blame of many of the ailments which befall children in the course of their ordinary upbringing. There is in the minds of some people an impression that "humanised" lymph is apt to convey all kinds of diseases from the vaccinifer to the vaccinee. Among medical men no such fear prevails, and in their own families they no not hesitate to use lymph taken from a healthy child. But there is no reason why consideration should be refused even to this ill-founded fear. In calf-lymph we have an inoculative material at least equally safe (theoretically even safer) and not necessarily less convenient. On the Continent (where probably arm-to-arm vaccination was not performed with the same care and caution as in this country) calf lymph is now almost universally used. It is quite free from one particular risk, which though almost infinitely unlikely of realisation is yet most serious when realised. In one respect calf lymph possesses a great advantage over arm-to-arm lymph; in emergency it is capable of indefinite multiplication, so that material for the vaccination of a whole city can be prepared within a very short time by the simple expedient of vaccinating from one or two calves as many more calves as may be required for the purpose. With humanised lymph this is impossible, as the whole stock obtainable on any one day from the largest vaccination station in the kingdom would suffice for only a very limited number of fresh operations. In an epidemic, moreover, many of the vaccinees are adults and these should never be used as vaccinifers. When this question of the substitution of calf lymph for humanised lymph was first raised in England it was objected that a considerable proportion of the insertions of calf lymph would fail in producing proper vaccine vesicles—that the insertion-success would not be so great as in arm-to-arm vaccination. So far as calf lymph is concerned this fear has been found groundless. An experienced vaccinator can produce good vesicles up to within a fraction per cent. of his insertions. With stored calf lymph, however, the success is probably not so great. On the other hand, it is urged in favour of preserved calf lymph that the glycerin with which it is commonly mixed has the effect of destroying extraneous infection, such as that of erysipelas, which is about the only genuine risk that ever really does accompany vaccination, and, rare as is serious vaccinal erysipelas, it is yet very important that so far as may be it should be avoided. The point is one on which I do not venture to express an opinion, but no doubt the comparative merits of fresh calf lymph and stored calf lymph will be considered by the Royal Commission. In France fresh calf lymph is used, and it is held there that careful antiseptic precautions have left no fear or risk of erysipelas. If this be so then probably fresh lymph ought to be selected. In the French vaccination system the vaccinator proceeds from village to village, previous public intimation having been given of his itinerary. The calf to be used is conveyed in a specially constructed vehicle and the lymph is applied directly from calf to arm.

By what machinery could such a scheme of national vaccination as is here advocated be carried out? At present in Scotland, unless for certain exceptions in some of the largest cities, every medical man vaccinates the children within his own practice, and as a family medical man is selected on account of the confidence which is felt in his skill there is much less tendency to rush to *post hoc* conclusions than in England, where from one-half to two-thirds of the vaccinations are done by public vaccinators specially appointed. Yet if calf lymph were to be generally adopted it would be a matter of practical necessity that in any calf-to-arm system the work should be done by medical men specially appointed and even confined to vaccination duty. At present in England the local authority in charge of public vaccination and public vaccinators is the board of guardians. This is an anomaly which ought to be remedied. Vaccination is a public health provision and ought to be

under the charge of a public health board. When small-pox prevails it is absurd that the authority which has charge of hospital arrangements, disinfection, &c., should have to go hat in hand to the Poor-law guardians with regard to increase of facilities for vaccination, especially as the two bodies do not always see eye to eye on so essential a preventive measure. But as to the authority which ought to supply the calf lymph I am not quite so clear. It is out of the question that every public health department, urban and rural, should maintain a calf lymph establishment of its own. The duty ought to be entrusted to the Local Government Board or to the county councils, and the experience of foreign countries will be available to the Commission in deciding which course would be the more efficacious and the more economical. Personally, I would be inclined to place the responsibility as high up as possible—with the Whitehall Board rather than with county councils; but it is conceivable that there might be practical difficulties with regard to the transportation to remote districts of vaccinated calves. English counties are of such diverse areas and population that they do not strike one as suitable administrative units for such a purpose. No doubt combination of counties could be made, but joint boards are not free from objection, and the whole country might as easily be divided into large districts for central administration as grouped into counties for joint county government. Even under the latter arrangement there would have to be supervision from Whitehall, and I see no sufficient reason why Whitehall should not take charge of the whole business. The question, however, is for consideration by the Commission, which has at its disposal all available sources of information.

Such is the general scheme of legislation which seems to me best suited to meet the circumstances of the present time in this country. It would do away with all the irritation and ill-feeling consequent on prosecutions and fines, single or repeated, for neglect of vaccination; it would provide in the case of those who have conscientious objections a national register of the unvaccinated; it would at the same time be designed to prevent non-vaccination as a result of mere parental indifference; it would offer calf lymph to all who might choose to have it; it would (subject to the option of the register) provide for revaccination at twelve years of age and also in presence of epidemics in particular communities; it would insist that vaccination when done at all should be efficiently done; and it would postpone to twelve months the age at which primary vaccination should be formally demanded. Against this scheme it may be urged that its first and immediate effect might be to produce a diminution in the amount of infantile vaccination. This would be easier to urge than to establish, for it is to be kept in view that in many places at present where boards of guardians take no action no definite pressure is brought to bear on the merely indifferent. It is not to be supposed that in Gloucester, Keighley, Leicester, Northampton, &c., 80 per cent. of the population are conscientious objectors, and great part of the neglect is no doubt due to sheer carelessness or to the fashion of the locality. Possibly, however, taking the country as a whole, the fear might be realised that there would be, as a first result of the new law, some diminution in the amount of infantile vaccination with, as a result, recrudescence of small-pox and loss of lives which vaccination would have saved—lives mainly of helpless children suffering death for the folly of their parents. But the fact must be faced that even at present, material is accumulating for a small-pox epidemic and it almost looks as if the death toll were already beginning to be exacted. The further fact must be faced that owing to a combination of causes which have been already indicated there has been arising in this country a considerable amount of prejudice against the present vaccination laws. There is a deliverance of Burke which has been already quoted by a foremost opponent of vaccination and which will bear requotation here: "It would be dreadful indeed if there were any power in the nation capable of resisting its unanimous desire or even the desire of any very great and decided majority of the people. The people may be deceived in their choice of an object; but I can scarcely conceive any choice they can make to be so very mischievous as the existence of any force capable of resisting it." It is hard to say exactly where Burke would have drawn the line in regard to the present question. Where does the duty of the State end to enforce on children what it believes to be an important sanitary measure, and where does the right of the parent with conscientious objections begin, to refuse to submit his child to what he supposes may be a very dangerous proceeding? We have had compulsory education since Burke's day, and I do not for a moment believe that the majority of the people are opposed to vaccination, but I do believe that the opposition has become so considerable that it would be unwise to attempt universal enforcement of vaccination. If it is too much to hope that the operation of the scheme sketched in this article would not diminish infantile vaccination (and even that hope I would not care to abandon until the scheme had been tried), it is at least a reasonable expectation that revaccination would be much more largely resorted to than heretofore, and that loss of child life might in the national economy be compensated for by saving of adult life. And though it is a hard thing to say, the prevalence of small-pox in the young would have this beneficial effect, that it would educate the parents of this generation into an acquaintance with, and a horror of, small-pox which are almost unknown nowadays owing to the very success of the Jennerian prophylaxis. The ultimate result might therefore be that vaccination would once more become almost universal and that revaccination would obtain a prevalence which it never has yet possessed in these realms.

Perhaps, before closing this article, I should refer to a proposal which is coming to be more and more mentioned in connexion with the prevention of small-pox—namely, compulsory hospital isolation. Let it be observed, in the first place, that this, though it would be a most useful adjunct to any incomplete and partial system of national vaccination, could never become a substitute for vaccination. Even putting aside the known fact that small-pox hospitals have often themselves proved centres of infection to surrounding unprotected populations, it is obvious that such a hospital requires a staff of attendants, and that these, if not themselves protected, would fall victims to infection, and that they in their turn would require another staff of attendants, and so on indefinitely; but if it be urged that in the absence of vaccination there would be no lack of surviving small-pox-protected nurses, I have no word to say in reply; of patients, at any rate, there certainly would by-and-bye be a superabundance. Let it be observed, in the second place, that the compulsion of universal hospital isolation would soon raise up against it the same outcry that has accompanied compulsory vaccination. Already, as the results of attempts at this method of prevention in ill-vaccinated neighbourhoods, we read of the burning down or other destructive injury by infuriated mobs of two intended small-pox hospitals in the West of England. And if the system of compulsory isolation which is at present only tentatively resorted to were formally established by law it would have directed against it all the artillery of anti-compulsion. Already some of the leaders of the anti-vaccination movement do not hesitate to state that their opposition to the one scheme would be as active as to the other. If, then, it be suggested that optional removal to hospital should be followed as a system of small-pox prevention, where do we land ourselves? Supposing that ninety go to hospital and ten stay at home, the ten will soon be surrounded by ninety more, and the ninety by nine hundred, and so on indefinitely. There would be no protection for anybody, while optional vaccination has at least the advantage that it protects those who choose to accept protection. The wise in the community must, therefore, in the meantime be satisfied with thorough protection of themselves and their offspring, and with doing their best to teach the truth about vaccination to their deluded neighbours, at the same time that the Legislature continues to bring to bear on the population at large such pressure as shall be most likely to produce, with regard both to vaccination and revaccination, a maximum of result with a minimum of friction. This is not a heroic remedy. Perhaps it is mere opportunism; but I believe that in the end it will most nearly fulfil the desideratum with which I set out, that in this country there should be as many people as possible as well vaccinated as possible.

EAST LONDON CHILDREN'S HOSPITAL. — The anniversary dinner of the East London Hospital for Children was held on May 13th, at the Hôtel Cecil. Mr. John Aird, M.P., presided. Cardinal Vaughan, in proposing the toast of "The Board of Management," said he was specially indebted to this hospital, all his clergy testifying to the great benefits it conferred on their extremely poor people. Donations amounting to £1240 were announced, including 100 guineas from the City Corporation.

ON AN

INTERESTING ANOMALY OF THE OCULAR MUSCLES: A CLINICAL STUDY.[1]

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THE case forming the basis of this communication is a marked example of a class not really very rare in its less pronounced forms, which has not hitherto received much attention from ophthalmic surgeons generally, although it has been most carefully investigated and described by Dr. G. T. Stevens of New York.[2] I refer to that class of anomaly in which there is a tendency to deviate, or an actual turning of one visual line from the other in a vertical, or in a combined vertical and horizontal direction. It is no part of my purpose to explain Dr. Stevens' papers. They explain themselves in the clearest possible manner. But it may be well, in order to avoid repetition, to refer to his classification of the anomalies of the ocular muscles.

Orthophoria means a tending of the visual lines in the correct direction. Since the terminology is based upon the positions of the visual lines in distant fixation (under which condition they are normally parallel), orthophoria means that the visual lines remain parallel on distant fixation, even though binocular single vision be abolished by screening one eye, or rendered useless by destroying the similarity of the images received by the two retinæ.

Heterophoria means a tending in some other direction. It means that under ordinary conditions, when both eyes are directed to a distant point, the visual lines habitually remain parallel; but that when one eye is screened, or binocular single vision is rendered useless or impossible, the visual lines tend to take up some position other than that of parallelism. Under ordinary conditions parallelism is maintained, but with difficulty. When the conditions of vision cease to be ordinary the visual lines cease to be parallel.

Heterophoria is subdivided into—esophoria, a tending of the visual lines inward; exophoria, a tending of the visual lines outward; and hyperphoria, a tending of one visual line in a direction above the other (right or left hyperphoria).

Strabismus is called heterotropia, which means a turning in some direction other than that of parallelism; but the line between occasional heterotropia on the one hand and heterophoria on the other is not a hard and fast one. Heterotropia is similarly subdivided into esotropia, exotropia, and hypertropia—inward, outward, and vertical strabismus. Deviations or tendencies which are partly lateral and partly vertical are named hyperesotropia, hyperexotropia, and hyperesophoria, hyperexophoria—right or left, as the case may be.

The patient, a man aged thirty years, who consulted me first in November, 1895, complained of defective sight since boyhood, gradually becoming worse; of headache, of inability to read for any length of time, and of some difficulty in seeing at night. On examination ophthalmoscopically there was found to be compound myopic astigmatism which admitted of the following correction: Right − 1·25 D sph. ◯ − 2 D cyl. axis 175° V = ⅔; left − 4 D sph. ◯ − 1·75 D cyl. axis 35° V = ⅔. The fundus was apparently healthy except for a moderate degree of staphyloma posticum. But before estimating the refraction I had observed the peculiar fact that the right optic disc was unusually high up and the left unusually low down in the direct ophthalmoscopic picture, and had made the provisional diagnosis of vertical error. Following up this clue—1. The patient, an intelligent, observant man, states that when reading his evening paper, if an illustration occur in the text below and to the right of the line which he is reading, that illustration sometimes floats upwards and to the left and becomes superimposed on the print to which his attention is directed, so that he sees the print through the illustration; this statement exactly tallies with the undoubted fact that he reads with the more myopic left eye and allows the right eye to rotate downwards and to the right. 2. If the right eye be covered while the left fixes a spot of light at some distance (in this case barely 5 metres, the width of the consulting-room), this right eye rotates downwards and slightly to the right, readjusting upwards and to the left when the cover is removed, provided that the patient be stimulated to make an effort at fixation. If not so stimulated the eye sometimes remains in its faulty position until some new movement of the eyes is required. If the left eye be covered while the right fixes, this left eye rotates upwards and slightly to the left and readjusts on removing the cover. 3. An actual strabismus, chiefly vertical, can sometimes, but not by any means always, be detected on inspection. The deviation varies according to the distance of the fixation point and the consequent choice of one or other eye for fixing. 4. If, while an effort at binocular distant fixation is made, the ophthalmoscope be quickly slipped in front of one eye it is quite easy to watch the optic disc rotating, the right upwards and the left downwards, to the position of rest. The lateral movement is much less obvious.

Early in the investigation it became apparent, as indicated by the statement about the illustration, that binocular fixation at near points either does not exist or exists only momentarily. There is, however, a question raised by the above-mentioned four points—namely, Does binocular fixation exist at all, even for distance? If it does, is such fixation habitual? If not habitual, is squinting the rule or the exception? The determination of these questions is necessary in order to exactly name the condition with which we are dealing. The diplopia tests lead one to the answer: 1. The room having been darkened except for a single distant spot of light which the patient fixes, a red glass is quickly slipped in front of the right eye and accurate observation of the result requested. The reply is that he notices a red spot (false image) which appears almost instantly to start from the white spot (true image) and moves upwards and to the left. Similarly, with the red glass before the left eye the red spot jumps away downwards and to the right. 2. It is sometimes possible to make the patient conscious of two spots without the aid of the red glass. He then fuses them by an effort which does not seem to continue long, confusion begins, he winks and rubs the eyes, then makes a fresh effort. 3. Using the Maddox rod and tangent scale the following amounts of deviation are ascertainable. The vertical deviation is very great, varying on different days from 7° to 10° (actual deviation, not prism). Similarly, the horizontal deviation varies on different days from 2° to 6° (outwards). The horizontal and vertical deviations vary in the same sense; on one occasion the horizontal was 2·5° and the vertical 7°; on another occasion the maxima were obtained as horizontal 6° and vertical 10°. The readings are equal whichever eye be under observation. In these diplopia tests the wearing of the correcting glasses does not materially affect the amount of error. In the spot tests, since the left eye is myopic 4D, they must be worn in order to properly bring out the diplopia.

The question regarding binocular vision may now be put in the following form: Is it possible that a person whose visual lines in distant fixation tend to deviate from parallelism 10° in the vertical and 6° in the horizontal direction, in whom, further, the mere red colouration of one retinal image is sufficient to abolish binocular single vision, can, as a rule, have such binocular vision? I think, with Dr. Stevens, that such a high vertical error excludes habitual binocular fixation and makes even its occasional accomplishment, as in this case, somewhat paradoxical.

Before stating the conclusions drawn from the ascertained facts it may be interesting in view of treatment to study the muscles involved. It is obvious that here, as contrasted with the comparatively common combination of horizontal and vertical error, where the principal deviation is horizontal the vertical error is the one which chiefly claims attention. Exophoria is a common condition generally known under the titles "insufficiency of the internal recti," "insufficiency of convergence," and "latent divergence," and one is justified in stating as a result of the diplopia tests that such want of equilibration between the convergence muscles and their antagonists, the externi, exists here in combination with a vertical want of balance between opposing groups of still higher degree. In studying the vertical error one may assume, for simplicity's sake, that an actual strabismus exists. The strabismus is concomitant, for the disturbance of equilibrium is shared by

[1] A paper read at a meeting of the Glasgow Medico-Chirurgical Society, January, 1896.

[2] The Anomalies of the Ocular Muscles, Archives of Ophthalmology, 1887, 1888, 1889, 1891.

both eyes equally. The excess of elevating power relative to the plane of fixation which is due to some mechanical advantage of the elevators of the upward turning left eye over their antagonists is immediately transferable, when a call for fixation is made on the left eye, in an equal degree to the depressors of the right eye. It might be said with equal truth that the excess of depressing power of the depressors of the downward turning right eye is transferred, when the right eye is called upon for fixation, to the elevators of the left eye; but since, as a matter of fact, the left eye is always (save under the exceptional circumstances when the visual lines are parallel) on a higher level than the right, it is convenient to speak of the condition as a left deviation upwards rather than as a right deviation downwards, which would necessitate the use of another prefix "hypo."

Next one comes to the actual muscles involved in the vertical deviation. The left superior rectus and inferior oblique (elevators of the left eye) possess, relatively to their antagonists, a static advantage of some kind over their associates, the right inferior oblique and superior rectus (elevators of the right eye), consequently an equal nerve impulse to both eyes causes a greater result—i.e., greater elevation of the left eye, the right fixing. It might with equal truth be said, when the left eye fixes, that the right inferior rectus and superior oblique (depressors of the right eye) have, relatively to their antagonists, a static advantage over their associates, the left superior oblique and inferior rectus (depressors of the left eye), and that an equal nerve impulse gives a greater result, greater depression of the right eye.

It can now be understood that when the patient succeeds in fixing a distant spot of light binocularly he does so through an extraordinary effort on the part of the less advantageously situated muscles of both eyes—that is to say, while the right superior rectus and inferior oblique oppose an unusual amount of resistance to the right superior oblique and inferior rectus and for a time prevent this eye rolling downwards, at the same time the left inferior rectus and superior oblique oppose an unusual resistance to the left inferior oblique and superior rectus and prevent this eye from rolling upwards. Parallelism is thus maintained until fatigue overtakes the weaker muscles, or the desire for fusion is lessened or destroyed by altering the appearance of the images or occluding one eye.

I may now summarise the case. 1. There is sometimes binocular single vision for distance. At other times, probably more often than not, there is diplopia with mental suppression of one image, but the deviation is not maximal. 2. In near vision there is always diplopia, usually with suppression of one image; but when a conspicuous object casts its image on the deviating macula the two totally dissimilar images may be superposed and cause confusion. 3. The deviation is concomitant. 4. In distant fixation the left eye tends to turn, or actually turns to a greater or less degree, upwards and outwards, while the right eye fixes. 5. In reading and near work the more myopic left eye is preferred and the right deviates. 6. The condition may be called left hyperexotropia, with the proviso that orthotropia (correct turning as contrasted with orthophoria, correct tendency) is possible at times. It is worth remarking that on certain occasions the error is less in degree than on others, the variation being probably due to variations of the nervous system as to fatigue.

Treatment.—There seem to be four courses open in such a case as this: to do nothing, to shade the right eye when reading, to correct with prisms, and to operate. The two first are, of course, unsatisfactory. The third, though apparently feasible, is not really so, because the weight of the necessary prisms, the colour disturbances produced by them, and the increase of deviation likely to follow their use make them quite impracticable. Even comparatively low prisms lent to the patient for trial proved a source of annoyance and seemed to have no beneficial effect. Of the four courses probably by far the best is that introduced systematically by Dr. Stevens—namely, graduated tenotomy of the superior rectus of the upward turning eye. Then in this case when the vertical error had been removed it would have been necessary to consider the question of operation on the lateral muscles. This is the treatment I proposed. It was rejected, however, and the patient is content at present to go through life with two eyes which, when corrected as to refraction, have fair acuity, but are incapable of working harmoniously together.

Glasgow.

THE TOXINE THEORY OF SYPHILIS.

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SURGEON TO OUT-PATIENTS, LONDON LOCK HOSPITAL; SURGICAL REGISTRAR TO ST. GEORGE'S HOSPITAL.

(*Concluded from p. 1348.*)

IN my last paper I brought my consideration of syphilis in the light of the toxine theory up to the dying away of the first outbreak of secondaries. I arrived at the conclusion that the leucocytes must attain a measure of toleration and so be able to encapsule the invading microbes. There appear now to be three courses open: the cells may sooner or later utterly destroy the microbes and end the disease; they may be unable to restrain them, and recurrent outbreaks occur with the production of larger and deeper lesions, profound anæmia, asthenia, and death; or an intermediate course may be imagined, in which the semi-tolerant cells may prove to be such an unfavourable environment that the microbes will enter the spore state. In the first case the total destruction of the infection will rarely follow the first general outbreak even in the most resistant individuals. Here and there local outbreaks, "reminders," will occur, often to be attributed to local depressing causes, such as friction of a rough vest, shampooing, the growth of other microbes in the mouth or tonsils, irritation of the hands in working people, the irritation of hat-linings or neglect of the scalp. Even in a case under treatment I have seen an acute and extensive ecthyma follow semi-starvation in consequence of the unfortunate man falling out of work. This case opened my eyes to the enormous importance of good food. In this class of case under a proper *régime* the local cells will gradually get the upper hand and the lesions disappear. The occurrence of ring-shaped and serpiginous lesions indicates that a local microbic invasion may occur, starting from a centre and growing over a considerable area of tissue, leaving the local cells so resistant that a second invasion of microbes from a neighbouring centre cannot gain foothold. Ultimately the recurrence of lesions ceases, and there is no reason to doubt that in many cases a total extinction of the infection results. It is to be noted that the cases in which the infection is quickly overcome are just the ones in which re-infection occurs. Toleration is quickly acquired and quickly lost, leaving the organism unprotected.

The next class of case, the worst of which are described as galloping or malignant syphilis, are those in which resistance is feeble from idiosyncrasy or some debilitating circumstance. It is interesting to remember that tuberculous people are very susceptible, when the experiments showing acute reaction of syphilitic lesions to the injection of tuberculin are borne in mind. In these malignant cases the toxine tide in the blood apparently never falls and toleration is never acquired, the secondary foci grow larger and larger, and ulcerations with probably local growth of other microbes and septic absorption follow. The eyes and other organs are invaded, infiltration and sloughing of the palate and other parts, with osteitis, necrosis, nervous lesions, and so on, combine with general toxæmia and lardaceous degeneration to kill the patient.

Early lesions involving the brain are generally due to hæmorrhage or thrombosis consequent on the softening of the coats of small arteries from, I suggest, the growth of foci on and through the walls; the coats consequently become permeated with round cells, which collect also outside and inside the vessel. Here they may occlude the lumen and cause thrombosis, or the softened wall may distend into an aneurysm and ultimately burst. Other foci may be established at the foramina of the skull, at which points of terminal circulation microbes may be expected to have been stranded, and here cause pressure symptoms. The iris may be the seat of lesions, with consequent collections of cells forming the plastic exudation, and adhesions may result. The occurrence of foci in the choroid similarly accounts for the circular patches of exudation followed by organisation and atrophy. In this way I would account for all secondary phenomena, special symptoms being due to the anatomical situation of the foci. The occurrence of alopecia I regard as due to foci growing in the scalp, but the general falling of the hair I suggest is due to general toxæmia, as similar conditions follow acute fevers.

In less acute cases the later secondary lesions may grow larger and deeper here and there. At this stage the toxine

tide will be fairly low since the local lesions are fewer in number, a corresponding activity of chemotaxic cell infiltration will occur, and consequent overcrowding and disintegration follow. The slow ulceration of rupia will thus result and give an opening to saphrophytic microbes to grow and form absorbable poisonous products. The tongue or the eyes or other regions may be more or less intensely invaded and corresponding lesions produced. The rule seems to be that the fewer the foci the larger the lesion, and the greater the infiltration and tendency to ulceration. Whether the lesions are slight and tend to disappear, or grave and tend to ulcerate, seems to depend on the resisting power of the individual, and this can be increased by treatment and diet or depressed by their absence.

The middle course in which the two forces are evenly balanced can easily be imagined. Here the cells will encapsule the microbes and not be able to destroy their vitality, but will form a sufficiently unfavourable environment to reduce them to the spore state. The tubercle bacillus is also a spore-bearing organism and undergoes this change with caseation. Considering the resemblance between the two toxines and between the granulomatous lesions in the two diseases I see no difficulty in taking this view. It is also the only explanation that can be offered for the occurrence of tertiary lesions, since it seems most unlikely that microbes could remain encapsuled for forty years perhaps, or that if multitudes were so existant that they would not form toxine enough to prevent the patient enjoying perfect health. As spores, however, they would rest inert like particles of pigment in the cells, the production of toxine would cease, and the cells wander away from the foci carrying their burden of spores among the fixed fibrous tissue cells. These would, I imagine, absorb the leucocytes and so receive the spores, or take them up on the death of their original hosts, or these last may become fixed as fibrous tissue cells. In some such way the fixed cells must take up the spores, since it is among them that the tertiary lesions develop. These take the form of gummata or infiltrations, the one tending to disintegrate and the other to organise. In the skin and subcutaneous tissues, where fibrous tissue cells abound and consequently spores would be thickly sown, gummata are the rule, while in the viscera, where the fibrous tissues are more sparse and the blood-supply more free, infiltrations are, perhaps, more common. Gummata, however, are not infrequent and the acuteness of the process must depend, one would think, on the density of the spore infection. These processes, I believe, are identical in essence and strictly analogous to the infiltrations of the primary and secondary lesions.

I suggest that a gumma can form somewhat in this way; some local depression of vitality, often a traumatism, determines the bursting into vitality of one or more spores; these form a colony and form toxine; this toxine as it diffuses depresses the vitality of neighbouring cells, and the spores resting in these awake and form further toxine, this process extending indefinitely in all directions. Chemotaxis naturally following, the focus would become packed with leucocytes, and since again we have a single huge focus the toxine would diffuse freely, and the cells, having lost most of their tolerance, as the possibility of re-infection indicates, would respond as in the case of the primary sore. Hence the induration may again be nearly as dense. At first some attempt at vascularisation, with formation of new vessels, takes place, but later the cells crowding in will be unable to penetrate beyond the vessel walls, the vessels will become blocked with them, and thrombosis be established. The central parts of the gumma will then disintegrate, and an ulcer result presenting the imperfectly fibrosed outer parts of the gumma in the shape of macerated "wash-leather" sloughs. The infiltration of more vascular structures, like the skin or viscera, will occur by a similar process, but since the blood-supply is better fibrosis will follow instead of disintegration. This profuse lighting up of a large area accounts for the extensive cutaneous "lupoid" infiltrations, which may extend over square feet of the surface, with irregular ulceration of the superficial parts. Again, subcutaneous gummata may start at several points, and so form by coalescence the deep serpiginous ulceration so often seen. It is obvious that a very slight cause may in this way start an extensive lesion, just as a spark may start a forest fire. In these tertiary skin lesions there is no tendency to dying down of the process in the centre, as in the decadent late secondary ones, but infiltration progresses till ulceration occurs. Though tending to the circular form at first, the process later becomes more active at one part than another, and very irregular lesions may result. I therefore think that a severely circular lesion is probably a secondary one, produced by peripheral growth of a single colony, fighting against more or less tolerant surroundings, while a tertiary one progresses more irregularly by peripheral lighting up of spores resting in neighbouring cells. The infiltrations of viscera, the nervous system, and bones can all, I suggest, be referred to this process. In the liver, for instance, gummata may alternate with tracts of infiltration, pointing, I suppose, to an unequal distribution of spores. In a case of sporing, I imagine, the process will be more or less universal, since a traumatism establishing a gumma may occur at any point of the body, and the long arm of coincidence could hardly inflict the injury on the one situation where spores were resting. The anatomical structure of the various parts being considered I think that the above process may well explain all tertiary phenomena. The probability of secondary infections of ulcers by other microbes, with consequent septic absorption, must never be forgotten, since many cases of lardaceous disease and nervous degenerations may be partly due to this cause. I have already referred in my paper on Latency to Dr. Weber's observation of a zone of lardaceous change surrounding gummata of the liver. I can well believe that the amount of toxine diffusing from these large foci might cause this as well as more general degeneration with lardaceous change in the intestinal villi, which I have seen cause death at the Lock Hospital. The "quarternary" lesions, nervous degenerations, ataxia, &c., may well be due to prolonged toxine poisoning without any question of microbial local growth, and naturally these are found to resist treatment.

On the question of treatment and the action of drugs I would suggest that mercury as a potent germicide probably acts by depressing the vitality of the microbes, so reducing their toxine-forming powers and allowing the phagocytes more easily to encapsule and destroy them. Even in so virulent an infection as anthrax mercurialised animals resist an otherwise fatal dose. Over-mercurialisation, however, favours the extension of lesions and microbic growth by depressing the vitality of the tissues. Consequently mercury should never be pushed beyond the slightest touching of the gums. The iodides seem to have little effect on the microbes which determine lesions when the treatment is left off. It must act, I suggest, by breaking up or eliminating the toxine, and so removing the chemotaxic irritant which causes the presence of the microbes to be revealed. The infiltrating cells no longer attracted will wander away, the lesions disappear, and the toxine tide fall, while the microbes will remain apparently latent, as they do for nine months in the fœtus under Colles's law, when the toxine escapes into the mother's circulation. The method of treatment by mercury alone in the early stages is therefore reasonable, the more that can be given short of depressing the patient's vitality, the greater the probable effect on the microbes. With the combined treatment the lesions will disappear more rapidly, but the mercury will also be eliminated more or less, consequently there seems to be a risk of lessening its control over the microbes and so running the risk of spore-formation instead of total destruction of the microbes. I think, therefore, that the combined treatment is indicated only when inconvenient lesions have to be got rid of, and that otherwise mercury alone holds out the best chance of cure. That iodide would have any effect on resting spores does not seem likely, and this accounts for the fact that courses of this drug do not remove the tendency to the future formation of gummata. Mercury, however, by permeating the system and creating an unfavourable environment might possibly do so for a time at any rate, but I doubt if it could enable the cells to destroy the spores. A patient the subject of spores thus is an example of the "Once syphilis, always syphilis" dictum. On the other hand I do not see why in the early stages of the infection mercury should not enable the tolerant cells to destroy the depressed microbes totally and so eliminate the disease.

I have already dealt with the question of congenital disease, but I may be allowed to give a short *résumé* to round off this matter. It is admitted that a child may inherit from either or both parents. When the father is the infector microbes or spores must be conveyed with the semen into the cavity of the uterus; as this is protected by epithelium there is no reason why the mother need be infected, nor is she as a rule. The ovum, however, is in a different case, and the microbes

growing on the mucosa will invade it and grow with its growth. In such a case the child is born healthy and well developed because the toxine can diffuse into the mother's circulation, where it will cause a degree of toleration sufficient to prevent the child after birth infecting the mother (Colles' law). If the mother is the subject of active syphilis the germ-cell will either convey the microbes and produce an infected ovum, or the toxine in the mother's circulation will diffuse into that of the child. In the first instance the ovum will not be able to get rid of its toxine by diffusion and so be destroyed: in the second, the toxine diffusing from the mother may well be enough to poison the ovum. In either case recently infected mothers rarely give birth to a viable fœtus (Zeissel). If the father is infected also, the chances of the infection and death of the child are increased. If the infection of the mother is not recent, the toxine-tide in her circulation will be lower and the child may eliminate enough toxine to survive. It is then born puny and miserable, with signs of disease, and is an early prey to marked lesions followed by death. In a child infected by the father alone, the mother not being infected, the child is born healthy-looking, but the safety-valve of diffusion is closed, the toxine will accumulate, and in two or three weeks the foci, corresponding to secondaries in the adult, are declared. The after-course of the infection resembles that in the adult, and must depend upon the resisting power of the individual. It may run a malignant course or gradually resolve. Sporing may occur and gummata follow in after years. It seems possible that intra-uterine sporing might occur in a resistant case, and this may account for those exceptional cases in which no symptoms occur in infancy or even up to forty years (Diday). The special affections of interstitial keratitis and internal ear disease may perhaps be accounted for by saying that since the microbes grow in the ovum from the earliest stage they may reach tissues which ultimately will become non-vascular, and here remain as spores when the early outbreaks have been overcome, the microbes elsewhere being destroyed or their spores eliminated during the changes of growth and development. Then when the forces of the organism are exhausted by the evolution of puberty or other causes, the spores resting in the cornea or labyrinth will develop into foci and cause the infiltrations which determine the characteristic lesions. The retention, too, of spores in the testicles or ovaries seems to render transmission to the third generation at any rate credible.

This toxine theory of syphilis has been in my mind ever since I first formulated it in THE LANCET of Sept. 10th, 1892, and with increased experience I am the more impressed with its efficiency in explaining the phenomena of the disease.

Hertford-street, W.

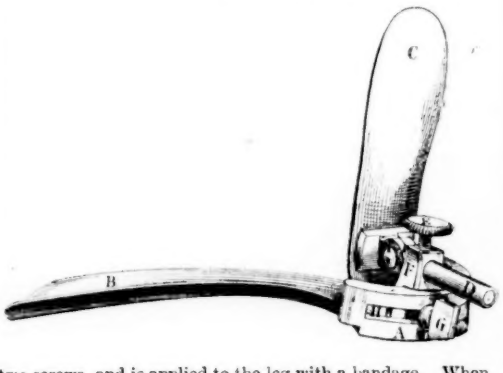
A NEW INSTRUMENT FOR TREATING DEFORMITIES OF THE HUMAN FOOT.

By R. MARTIN GIL, M.D.,

SURGEON TO THE HOSPITAL "NOBLE" OF MALAGA; CORRESPONDING MEMBER OF THE ROYAL ACADEMIES OF MEDICINE OF MADRID AND BARCELONA, ETC.

IF deformities of the foot were as common as they are generally strange and abnormal they would most assuredly for a very long time past have constituted a specialty by themselves, to the study of which many eminent men of science would have devoted their time and talent for the benefit of fellow-beings so frequently helpless and worthy of the deepest commiseration. In the course of the last few years a number of orthopædic societies have been founded in Europe and America. In England there are in certain hospitals departments for the treatment of this specialty; in France and Germany many distinguished medical men give their attention to cases of deformity of the foot and leg; the modern publications on operative surgery now treat of these affections at greater length, and of late years special treatises have been issued on the subject, among others the recent ones of Mr. Walsham and Mr. Kent Hughes. Both in these works and in some other pamphlets are to be found descriptions of a great number of instruments for keeping the foot straight and in a proper position, but in my opinion the majority leave something to be desired, for although many of them are excellent in their way they are still more or less defective. When the surgeon does not consider that the case calls for an operation and decides instead on employing one of these instruments, it at once becomes apparent that his skill and solicitude, owing to the imperfections of the invention, fall far short of coping with the difficulties of the case. The manufacturer of orthopædic instruments is then given an order for one, and when finished the inconvenience resulting from the complicated and bewildering combination of springs, screws, joints, hinges, and above all the straps and buckles, becomes painfully evident even if we omit to take into account the certainty of atrophy of the muscles supervening from its prolonged use. To avoid these drawbacks the surgeon employs massage, bandages, plaster-of-Paris, silicate of potash, gum, &c., which, even if they do not meet all the wants of the case, are at least not open to the reproach of being dangerous as are the majority of mechanical contrivances.

The number of cases of deformed feet which I have met with in my professional career are numerous. In those not operated upon by me—which has generally happened through opposition on the part of the family of the patient—the results have been far from encouraging. In many of them the evil continued as before, while aggravated by the check to the development of the limbs caused by the pressure of the apparatus. Quite recently, on the occasion of an operation on a little girl suffering from equino varus in both feet, I felt the want of an apparatus to keep the foot steady and straight after performing tenotomy. The deformity of the bones of the ankle-joint and the slackness of the sinews and ligaments of the outside of the foot rendered it difficult to retain this latter straight and in a proper position and to keep the bandages from moving. Failing to find among the contrivances known to me any to suit my purpose, I was obliged to invent that represented below. This apparatus consists of a circular plate of strong steel, A, with a radius of seven centimetres. A splint, B, is joined to the centre by



two screws, and is applied to the leg with a bandage. When the foot is placed upon the brass plate, C, it is kept steady with another bandage, and by means of the stem, D, which is joined to the plate, the toe being moved to the right or left as desired, leaving the foot in a fixed position by means of the screw, E. The piece, F, is then directed as required, the foot being placed in a normal position and kept in place by the use of the screw, G, which passes through the opening, H, and may be placed wherever its presence becomes necessary. The ring-catch, I, serves to keep the foot in a more or less vertical position as required. These positions are soon changed when, after the wounds inflicted in the operation are healed, massage of the joint has to be employed; it will then be sufficient to slacken the screws, E, G, and that of the ring-catch, I, so that both hands of the operator may be able to move the foot freely without removing the bandages. After the massage any person, however ignorant of mechanical contrivances, can easily place the foot in its former position by means of the screws already mentioned. This apparatus serves for all classes of patients, from children to adults. It is only necessary to exchange the splint, B, and the plate, C, which are held in place by two screws, for others of the measures needed. With children who have already been operated upon after walking and who are permitted to walk with, for example, the boots of Stillman on, these latter will

be replaced when they retire to rest by this apparatus, so that the foot may be constantly kept in the position desired without moving during sleep. It is likewise very applicable in other deformities, such as talipes varus, equinus, valgus, and calcaneus, flat-foot, &c., whether dating from birth or acquired after birth, when in connexion with it a plate of the form needed by each individual case is used. When it is a question of children who have not yet walked my apparatus is also useful, but I have kept more in mind those who have already walked for the reason that they are the most difficult to cure, and this is because with my contrivance they cannot place the foot on the ground, while with others known to me when patients are allowed to walk if they let the weight of the body fall on the point operated upon they may possibly do so in a manner liable to cause them injury. When my apparatus is employed the foot of the patient will be always held in a desirable position, and if the operation be not crowned with complete success the blame cannot be attributed to any defect in the position of the deformed member.

DIABETES AND NEUROTIC INHERITANCE.

By J. C. M. GIVEN, M.D. LOND.,
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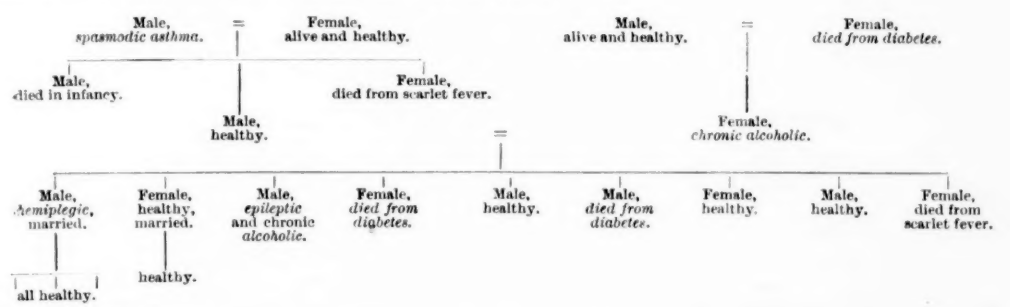
THE following pedigree, which I obtained when attending one of the cases of diabetes set out, is interesting as an example of how diabetes mellitus may be inherited and also of the fact now generally acknowledged that it may alternate with various neuroses. In this family of four generations (the fourth generation being only infants) there are three cases of diabetes mellitus, one of spasmodic asthma, two of chronic alcoholism, one of epilepsy, and one of hemiplegia the exact nature of which I could not ascertain.



Mossley Hill, Liverpool.

SOME EXCEPTIONAL CASES OF MALIGNANT DISEASE.

By HERBERT SNOW, M.D. LOND.,
SURGEON TO THE CANCER HOSPITAL, BROMPTON.

CASE 1. *Simultaneous development of carcinoma in both parotid glands; excision; subsequent ovariotomy for cyst with twisted pedicle; recovery.*—On Aug. 9th, 1895, a swarthy young woman aged thirty-four years, married, with a child aged sixteen months, was admitted to hospital with symmetrical tumours below each ear. That on the left was as large as a hen's, and that on the right as a pigeon's, egg, and not dissimilar in shape. They were of eighteen months' duration, had commenced therefore during pregnancy, and nearly at the same time, without any other obvious cause. There was no family history of cancer and no symptom in the least indicative thereof. The only complaint was earache. The general health was fairly good and there was a total absence of emaciation or of pain about the new growths, which felt smooth and exactly like an ordinary lymphoma, though slightly more elastic. At the lower extremity of the left was a round lump thought to be a distinct gland, but which subsequently proved to be a lobular projection from the primary tumour. Both were increasing quickly in bulk and caused considerable disfigurement. Upon incision they showed to the naked eye the greyish granular base commonly indicative of malignancy; they were firmly embedded in the parotid tissue and were dissected out with difficulty. The facial nerve passed directly through the left, and its division could not be avoided. Under the microscope the appearances were pronounced by Mr. Plimmer, pathologist to the hospital, to be typical of malignant lymph-gland disease (lympho-carcinoma)—a view in which I concurred. With a few minute cysts containing a milky fluid were large masses of small lymphoid cells, proliferating exuberantly and eroding the surrounding tissues. Presumably, therefore, the disease originated in one of the parotid lymph-glands. While in bed it was discovered almost accidentally that there was also an abdominal tumour which had so far given rise to no symptoms. It was as large as a child's head and was extremely mobile, feeling like a tense cyst. It had been noticed for six or seven months. The patient was discharged for domestic reasons on Nov. 7 at her own request. She sought readmission, however, on Nov. 21st, with severe abdominal pain and tenderness, the temperature rising to 103 6° F. Two days subsequently laparotomy was performed and a cyst of the left ovary with a long twisted pedicle was removed. Apparently the torsion was of some weeks' duration, though no symptoms had arisen previously to the first discharge from hospital. The cyst-wall was anteriorly adherent to the parietes and was there gangrenous, with blackish contents; the parietes were infiltrated and almost gristly. A favourable recovery ensued. The patient was seen well on Feb. 4th, 1896, with no indication of recurrence in the parotids or elsewhere.

CASE 2. *Simultaneous development of carcinoma in the uterus and mamma.*—A woman aged sixty-two years, a widow, was admitted to hospital on Jan. 8th, 1896. A prominent livid boss of encephaloid carcinoma, soft and freely movable, was visible at the upper and outer part of the left breast. Its duration was three months, it was of rapid growth and subsequent to a blow. The axillary glands were slightly enlarged. There was no family history of cancer. The patient was worn and emaciated. She was admitted for operation. A complaint of vaginal discharge led to digital examination, and it was then found that there was also malignant disease of the uterine cervix, that organ being firmly fixed in the pelvis; there was a deeply excavated ulcer, with fetid discharge, and infiltration of the surrounding tissues. So far as could be ascertained it had commenced simultaneously with the breast-lesion. The woman remains (Feb. 6th) an in-patient in an incurable ward, the idea of operative interference having been abandoned.

CASE 3. *Malignant disease of both ovaries; excision; recovery.*—A woman aged thirty-two years, single, was admitted to hospital on Aug. 13th, 1895. A large fluctuating tumour, noticed for two months, distended the abdomen. The menses were regular. There were emaciation and shooting pain on the left side. The mother had her breast excised two years previously for cancer; the mother's mother had "cancerated" (*sic*) tumour of the small bowel. Until a month previously the patient had been a laundress, a calling

which furnishes a specially large number of malignant cases. Laparotomy revealed a large, irregularly bossy tumour of each ovary, that on the right being the larger. Both were mainly cystic, but had a considerable solid basis, which under the microscope proved to consist of spindle-celled tissue, with abundant roundish cells containing large multiple nuclei. They were therefore sarcomata of very virulent type. The patient was discharged well on Sept. 18th. She was subsequently seen as an out-patient in good health on Feb. 3rd, 1896.

Remarks.—The two cases first reported are in my experience unique. I had never previously met with what appears to have been an independent and nearly simultaneous development of malignant disease in distinct and more or less distant organs; though I am aware that rapid diffusion *per* the bone marrow has caused some cases of acute periosteal sarcoma to be thus described in Germany. In order to establish the possibility of so rare an event one must first negative all possibility of metastatic transmission, such as can nearly always be traced when the opposite mamma becomes carcinomatous. The clinical history of the preceding seems to me quite incompatible with the idea of secondary infection. The first case, moreover, presents additional interest in view of the pathological correlation, occasionally noticed, between the parotid gland and the sexual organs.

Gloucester-place, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORTH-WEST LONDON HOSPITAL.

A CASE OF ADDISON'S DISEASE; NECROPSY.

(Under the care of Dr. KNOWSLEY SIBLEY.)

IN almost every detail this case is a typical one of Addison's disease, and the condition was fully recognised long before the vomiting and rapidly increasing asthenia made it evident that a fatal termination would soon ensue. The duration of life in these cases is very uncertain; we have published in these columns the accounts of cases in which the first symptoms were those of sudden and occasionally fatal syncope, where pigmentation of the surface of the body had not been previously observed, and it was not known that the patient was affected with this, as yet, incurable disease. It is hardly possible in any case to ascertain the exact date of the commencement of the disease, and it is probable that the process of degeneration of the suprarenal bodies is always far advanced before the clinical signs of the affection reveal themselves. The examination of the suprarenals after death in Dr. Sibley's patient shows how complete the destruction of those bodies may be, so extensive that no suprarenal tissue can be found. It is, however, not possible to say how long a patient can live after complete destruction of these glands. For the notes of the case we are indebted to Dr. Robert R. Leatham, resident medical officer.

The patient, a well-developed but nearly mulatto-coloured girl twenty years of age, was admitted to the hospital on Jan. 28th, 1894. In her family history there was nothing of importance. Both parents were alive and well, the father being of Scotch and the mother of English descent. Tubercle and syphilis were absent, nor had any relative had an unusually dark skin. All her life the patient had enjoyed excellent health with the exception of some hip-joint trouble when three years of age, the result of a fall, and of recurring attacks of dyspepsia during the last two or three years. Four months previously to admission the present illness began. She observed, as did her friends, an alteration in the colour of the skin of the face and neck, the skin becoming gradually darker. The hands, arms, and nails soon became affected in the same way, and finally the skin of the entire body was pigmented. About a month afterwards, in the beginning of November, she began to suffer from palpitation, and in a few weeks sickness and vomiting with occasional attacks of faintness and cardiac pain commenced. These symptoms had continued ever since. Amenorrhœa had existed since September, the hair had been falling out, and there had been a steady loss of strength. She had not, however, been losing flesh. On her admission to the hospital she was found to be a well-nourished girl, with a skin uniformly darker in colour than normal and in tint closely resembling that of a mulatto. The deepest staining existed in the axilla, neck, and buttocks, the parts being of a rich deep brown, the face, thorax and abdomen being of a lighter colour. The areolæ were extremely dark, resembling those of pregnancy; and down the back, over the spinous processes, stretched a band of deep staining. Round the body in a line corresponding to the pressure of the waist-band and above the knees in the position pressed on by the garters passed bands of deeper tint, whilst the flexures of the knees and elbows also showed more intense pigmentation. The scalp was of a yellowish-brown colour, and a scar in the neck, the result of an old suppurating gland, was deeply stained. The skin was soft and moist. The mucous membrane of the mouth was decidedly darker than usual, and on the sides of the tongue were several small patches of deep brown pigmentation. The conjunctivæ were white and clear. On examining the various organs no sign of disease could be detected. The lungs were resonant everywhere, with normal vesicular breathing; and the heart, liver, and spleen were apparently perfectly healthy. The pulse was regular, of low tension, 90 beats to the minute, and with soft arterial walls. The urine was acid, of specific gravity 1020, and contained no albumin, sugar, or indican. There was no œdema of the legs, the knee-jerks were normal, and the hip-joints freely movable; there were no scars. The retinæ and discs were healthy, and round each disc was a well-marked choroidal ring. The uterus and ovaries were healthy, and the pelvis presented nothing abnormal. On Feb. 1st the patient commenced to vomit, and for the next three days was sick every morning. Her pulse varied from 75 to 95 per minute and was of low tension, but otherwise she kept pretty well. Her bowels were inclined to be constipated. On the 5th she was very sick and vomited frequently all day. Her pulse was decidedly weaker, being only 77 beats to the minute. The bowels were open three times, this being due to a dose of cascara sagrada given the night before. She complained of no pain or uneasiness, only of the constant annoyance from the sickness. On the 6th she was no better and the vomiting was nearly incessant, even a sip of water exciting it. Her pulse was very weak and her condition grave in the extreme, the patient being greatly exhausted. On the 9th there was no change, the sickness being most distressing and the pulse nearly imperceptible. With difficulty it was made out to be beating about 130 to the minute. She lay in a state of exhaustion all day, vomiting being excited by the faintest movement, and during the night she died very suddenly. Her temperature was subnormal in hospital from the time of admission.

The *necropsy* showed a well-nourished girl so stiff from the severe cold that rigor mortis could not be distinguished. The skin was deeply pigmented, especially in the parts previously indicated. The lungs were healthy and the mediastinal glands were not enlarged. The heart was of small size and thin-walled, the valves were normal, and the liver and spleen healthy. The left kidney was misshapen, the hilum being puckered, otherwise it was healthy. The suprarenal capsules were very hard, cutting like scirrhus, but retained their shape. The distinction between cortex and medulla was not apparent. On section they appeared to be bluish-white with yellow patches. There was no trace of breaking down. The left was slightly adherent to the surrounding tissues. The solar plexus and semilunar ganglion were removed. To the naked eye they exhibited no sign of disease. The uterus and appendages were normal. A small gland removed from beneath the scar in the neck appeared to be healthy. There was no sign of tubercle anywhere.

Remarks by Dr. SIBLEY.—The suprarenals were chemically examined by Professor Schäfer and Dr. George Oliver, who found a complete absence of any suprarenal tissue, and no suprarenal extract could be obtained from the glands—that is, no physiological action could be produced from the extract obtained. Examination of sections under the microscope showed nothing but fibrous and caseous tissue in various stages of degeneration, with considerable small-celled infiltration in places. No tubercle bacilli could be found.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

A CASE OF PERFORATING ULCER OF THE STOMACH; LAPAROTOMY; RECOVERY.

(Under the care of Mr. F. PAGE.)

WE are pleased to be able to bring forward the account of another successful operation for perforation of a gastric ulcer. In most respects the history was a typical one of gastric ulceration, and the sudden onset of the symptoms which characterise perforation completed the evidence of the disease available without abdominal exploration. As usual, the perforation was found on the anterior wall, and it was reached and suturing performed, apparently without difficulty, through the median incision. Mr. Page lays great stress in his remarks on the importance of early suturing, and we fully agree with the importance of this. It is a point which we have frequently impressed on the readers of THE LANCET and is strongly supported by the eight cases which we published in the "Mirror" last year. Of these patients five recovered and three died. Of the former the ages varied from nineteen years to thirty-one years and the duration of symptoms of perforation before operation from four hours to thirteen and a half hours. In the three fatal cases the ages of the patients were twenty-one, thirty, and thirty-three years, and the symptoms of perforation had existed for nineteen, nineteen and a half, and fourteen hours respectively. In only one of the eight (a successful operation) was the ulcer on the posterior aspect of the stomach. The importance of a careful examination of the abdomen is shown by the accumulation of fluid which was found and required to be removed from Douglas's pouch during the progress of the operation, and for which a second incision was necessary. For the notes of this case we are indebted to Mr. W. H. Vickery, surgical registrar.

A woman aged twenty-eight years was admitted to the infirmary on March 17th, 1896, with the history that for a few years she had suffered from gastric symptoms and on one or two occasions had had hæmatemesis, the vomited material being of the usual "coffee-ground" nature. At 10 A.M. on the morning of admission she was suddenly seized with a sharp abdominal pain, she became rapidly collapsed, and she vomited some brown fluid. On admission she was collapsed and all her symptoms pointed to perforation of a gastric ulcer. She was pale, her extremities were cold, her pulse was rapid and soft, her expression anxious, and her abdomen tender. She was at once anæsthetised (4 P.M.) and the abdomen was opened by a median incision. There was free gas in the peritoneal cavity, as well as fluid contents from the stomach. On further examination a small, circular punched-out looking ulcer was found on the anterior surface of the stomach near the lesser curvature and at the cardiac end of the middle of the organ. It had contracted friable adhesions to the under surface of the liver, which were easily broken down. A row of sutures was passed through all the coats of the stomach uniting the edges of the ulcer. The ulcer was then covered in with surrounding stomach wall, which was sutured with a row of Lembert's sutures, only passing through the peritoneal and muscular coats. A third row was passed outside this for further security. The peritoneal cavity was very carefully and thoroughly washed out and a glass drainage-tube passed into Douglas's pouch. The parietal wound was sutured in the usual way. The patient stood the shock of the operation well, and was taken back to bed at 4.40 P.M. At 5.30 P.M. two ounces of fluid were drawn from the drainage-tube, and the tube was exhausted every hour until 8 A.M. on March 18th. Altogether twenty-eight ounces were removed. At midnight a nutrient enema was given and retained, and this was repeated every four hours. She dozed at intervals during the night, and her general condition was satisfactory. On the 18th—that is, the day following the operation—she was troubled a good deal with hiccough, but she did not vomit. At midday she had a teaspoonful of meat essence, and this was repeated every four hours. She perspired freely and at times was very restless, her temperature ranging between 98·4° and 100·4° F. In addition to the meat essence she took nearly a pint of beef-tea and six ounces of whisky in the twenty-four hours. At 10 A.M. on the 19th a soap-and-water enema was given and the bowels opened, after which she slept comfortably. The bowels were again moved during the day. She took a large quantity of nourishment. She continued to make satisfactory progress, and on the eighth day after the operation she was allowed an oyster every four hours; on the next day she was given milk puddings. On the 28th the dressings were removed, when the wound was found to be healed and the stitches were removed. On the following day she was put on the ordinary fish diet, and on April 19th she left the infirmary quite well.

Remarks by Mr. PAGE.—There is one point of considerable practical import in this case which I should like to mention. After the sutured stomach was returned the abdomen was very thoroughly washed out with hot sterilised water till the fluid returned quite unstained. A sponge on a handle was then passed into Douglas's space, when the pelvis was found to contain a quantity of fluid stained by contents of the stomach. To remove this a second incision was made into the abdomen and a glass tube introduced into Douglas's pouch. Through this the pelvis was thoroughly cleansed by irrigation. I consider the success of this case is due to the circumstance that the abdomen was opened so soon—namely, six hours—after perforation occurred. The patient owes her recovery mainly to Mr. Ouston—the surgeon who saw her very soon after perforation—who at once placed her in a position to have an operation brought to a successful termination. I have seen the patient to-day (May 12th); she has gained weight and is bright and cheerful, looking, as she says she is, quite well.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Hypertrophic Pulmonary Osteo-arthropathy.—Thyroid Body in Graves's Disease.—Osteitis Deformans.—Carcinoma of the Transverse Colon.—Annual Meeting.—Debate on Proposed Admission of Women as Members.

THE annual general meeting of this society was held on May 19th, the President, Mr. BUTLIN, being in the chair. The business of the ordinary meeting was first proceeded with.

Dr. THORBURN and Mr. WESTMACOTT demonstrated the post-mortem appearances of a case of Hypertrophic Pulmonary Osteo-arthropathy. This rare disease was described by Marie in 1890, and in the *British Medical Journal* of June 3rd, 1893, Dr. Thorburn recorded three examples. Of these cases one, a lad, remained under observation until his death, his clinical symptoms undergoing no material alteration. The post-mortem examination was very complete and showed almost universal erosions and articular changes. The lungs, spine, right suprarenal capsule, and right tibia presented tuberculous lesions and there was extensive amyloid disease. The skull was much thickened, roughened internally, sclerosed, and devoid of diploe; in his facial bones, ribs, sternum, vertebræ (except in the carious region), and clavicles no changes were observed. The limb bones were covered with a rough, porous layer of sub-periosteal bone. Their compact tissue was sclerosed and their medullary cavities encroached upon by new bone. These osseous deposits were especially marked in the shafts of the bones and in the attachments of muscles and fasciæ. The shoulder-joints contained an excess of clear fluid, and the cartilages of the heads of the humeri were eroded, especially at their margins; the synovial membranes were normal. In the hip-joints closely analogous appearances were observed, and the hips and shoulders were all remarkably symmetrical in the extent and distribution of the cartilaginous erosions. The elbow and knee-joints also formed a symmetrical group containing less fluid than the hip and shoulders, but with similar cartilaginous erosions, and with thickening of the synovial membranes. In the wrists, ankles, radio-ulnar, carpal, tarsal, and other small joints erosions of cartilage, principally marginal, were also found. The general condition was thus a highly symmetrical and almost universal osteo-periostitis of the limb bones, with atrophic erosion of the cartilages of their joints; the viscera indicated a somewhat extensive but much subdued tuberculosis. Mr. Thorburn regarded as unsatisfactory the theory of Marie, which attributed the disease to the absorption of ptomaines from suppurating foci, and found no evidence in favour of Bamberger's view that it was due to venous congestion. While reserving any strong expression of opinion he was inclined to

endorse his own suggestion based on the clinical appearances, that "hypertrophic pulmonary osteo-arthropathy" was the result of a diffused but very mild tuberculosis of bone.—Mr. GODLEE said that the confusion in the literature of this subject was in part due to the way in which it had been introduced to the profession by Marie, who dwelt chiefly on the difference between this osteo-arthropathy and acromegaly. The specimens shown were of great rarity, and they appeared to correspond very closely with the description of Bamberger. Mr. Godlee referred to two cases which had been under his care. The first was that of a man who suffered for the whole of his life from cough. His fingers had been clubbed as long as he could remember and his expectoration had been offensive for three years. He had developed lately an appearance of the wrists and ankles like that of the photographs which had been shown. There was no very distinct enlargement of the shafts of the bones, but there was effusion into the joints, with pain, limitation of movement, and some fever. There was no reason to believe that the patient was tuberculous. The second case was that of a man who had suffered from pleurisy and bronchiectasis since 1891; there was clubbing of the fingers, with swelling of the wrists and ankles and effusion into the knee-joints. He had described a case in 1885 as one of "clubbing of the ankles and wrists" which occurred in a case of old empyema. If a reclassification of these cases were carried out a considerable number of them would fall into the group of septic osteo-arthritis, a group quite distinct from rheumatism. In the first of the cases he had referred to he had obtained skiagraphs of the limbs, and the pictures did not demonstrate enlargement of the bones.—Mr. THORBURN, in reply, held that the cases Mr. Godlee had related belonged to an entirely different group. The enlargements which occurred in congestive diseases were likewise quite distinct from those he described and exhibited.

Mr. EDMUNDS placed on record some further observations and experiments on the Pathology of Graves's Disease. The removal of the whole of the thyroid gland proper and also of one parathyroid gland was not a fatal operation in dogs, a single parathyroid gland being sufficient to prevent death or any symptom of athyroidea. If, however, both parathyroid glands were removed it was necessary to leave a considerable portion of the thyroid gland proper, in order that the dog might live; if even as much as 40 per cent. of the thyroid gland were left chronic tremors and inability to stand might result. The changes in the parathyroid gland thus left were to the naked eye a certain amount of hypertrophy; under the microscope this appeared generally to be due to a simple increase in the number of secreting cells, together with some thickening of the connective tissue. Occasionally an area of very large cells might be found and sometimes columnar cells almost or quite constituting a tubule or small vesicle; occasionally a few minute collections of colloid secretion were seen, but the parathyroid did not develop into thyroid tissue proper even in six months. The same negative result occurred in rabbits. The portion of thyroid tissue proper left also hypertrophied, the vesicles enlarged and became oblong and branched, the lining membrane projected in ridges into the cavity of the vesicles, the secreting cells became columnar, and the colloid secretion became less, being in many vesicles replaced by a fluid which stained much less deeply. All these changes which occurred in a remnant of thyroid tissue proper were also to be found in the enlarged thyroid gland of Graves's disease; indeed, the resemblance was so close as to lead to the inference that the two conditions were of the same nature. With respect to exophthalmos the excision of the parathyroid glands in rabbits seemed to cause the opposite condition of enophthalmos. In dogs a pathological widening of the palpebral opening was occasionally observed after partial excisions of the thyroid gland. The experiments had been made at the Brown Institution.

Dr. FIELDER exhibited the skeleton of a well-marked case of Osteitis Deformans. The patient was a female aged forty-five who had been suffering from the disease since the year 1891. She had had twelve confinements and six of her children were dead, including two who died from tuberculosis. The husband showed old choroiditis due to syphilis. There had been great pain in the limbs, which was always present and was worse at night. The bowing of the legs progressed rapidly and the patient estimated that she had lost four inches in height. The breathing was diaphragmatic owing to the falling together of the ribs, and most of the bones were affected, except those of the feet and the radius and ulna. The osseous changes were chiefly marked about the shoulders and knees, and were more advanced on the right side. Before death a tumour was discovered in the neighbourhood of the sacro-iliac joint, and this was afterwards found to be a mixed spindle and round-celled sarcoma. The greatest girth of the skull was twenty-four inches and at one place it was an inch and a quarter in thickness. The basal skull bones were unaffected and the vertebræ were extensively ankylosed together. No medicinal treatment succeeded in relieving the pain, but the patient seemed to do best on a mixture of iodide of iron and liquor sodii arseniatis.

Dr. NORMAN MOORE exhibited a specimen of Carcinoma of the Transverse Colon. The growth, which showed much thickening with ulceration of the mucous surface of the transverse colon, occupied its middle part. It was a spheroidal-celled carcinoma. The growth was adherent to the stomach, but had only penetrated to the sub-mucous coat of that organ. There was a large secondary growth somewhat higher up in the colon, but no other secondary growths. The patient was a man aged forty-five and his illness lasted seven months. The case was remarkable in the situation of the secondary growth and in the fact that, with the exception of slight diarrhœa without blood in the stools for four days, the symptoms were altogether gastric.

The following card specimens were shown:

Dr. TYSON (Folkestone): Elongated Appendix with Calculus.

Dr. SELIGMANN: Streptothrix Maduræ.

Mr. JOHNSON SMITH: Filariæ from Lymph Scrotum.

Dr. ROLLESTON: (1) Mediastinal Growth from the Thymus; and (2) Large Cyst in Carcinoma Mammæ.

Dr. HAWKINS; (1) Perforation of Gall-bladder in Febris Enterica; and (2) Horseshoe Kidney.

Mr. S. G. SHATTOCK: Cultural Variation in Streptococcus Pyogenes Bovis consisting of Mossy Outgrowths from the Colonies in Stab Gelatin Cultures.

Dr. OGLE: (1) Congenital Atresia of Pulmonary Artery; and (2) Gumma or Aneurysm of the Heart.

Mr. MALCOLM: Sarcoma of the Kidney.

Mr. TARGETT: Adrenal Tumour of the Kidney.

The business of the annual general meeting was then proceeded with, and it attracted a very large muster of members in view of the fact that the question of the admission of lady members was to be discussed. The report of the council was read by the senior secretary. There were 708 ordinary members of the society. Death had carried off amongst others M. Louis Pasteur, Dr. J. S. Bristowe, and Sir J. Tomes. The fiftieth anniversary of the society would fall during the coming session, and the council proposed to celebrate this by a presidential review of the history of the society combined with a conversazione. The financial statement showed a small deficit, but it was explained that this was due to the fact that a large number of subscriptions still remained unpaid, and the belated members of the society are hereby invited to note this fact. The following were elected as honorary members of the society:—Professor Bouchard (Paris), Professor Koch (Berlin), Professor Welch (Baltimore), and Professor Ziegler (Tübingen).

Votes of thanks having been accorded to the retiring officers and members of council the PRESIDENT, in a few introductory remarks, explained that in February last a lady had applied for membership of the society. The application came before the council in March and was deferred to the April meeting, there being a difficulty in arriving at a conclusion as to a right interpretation of the by-laws, at the time of the making of which there was no probability of women applying to be admitted. The council thought it desirable that the matter should be threshed out at the annual meeting, and asked Mr. Stanley Boyd to move a resolution standing in his name to the following effect: "That, in the opinion of this meeting, it is expedient that ladies, who are duly qualified medical practitioners, should be eligible for the membership of this society."

Of the lively debate which followed we are only able to give the briefest outline.

Mr. BOYD said that he considered it would do good to the medical women, while it would do no harm to the society. He said that the difficulty found in alluding to certain subjects before women, though it hampered ordinary conversation and required a distinct effort in scientific conversation, was yet less difficult before a society of mixed sexes than in the case of a man lecturing to a class composed solely of women. The admission of women would not only be extending a friendly feeling towards them, but would stimulate

them to work. Their opportunities of obtaining material were too few and their numbers too small to justify them in forming a society of their own.

Mr. BERRY, in seconding the motion, appealed to the generosity of the members and asked them by admitting lady members, to follow the example of the Anatomical Society and the Society of Anæsthetists.

Dr. HERRINGHAM considered the question to turn on the point whether it would inconvenience the majority of the members or not.

Dr. FLETCHER LITTLE besought the members to consider what the outside public would say to an adverse vote on this matter.

Mr. WALLIS and Dr. KANTHACK both confessed to a feeling of great diffidence when addressing mixed classes, and the former said that the British Nurses' Association could not be pointed to as an example of a happy family of mixed sexes.

Dr. HORROCKS felt that the admission of women would not hinder the attainment of truth.

Dr. NORMAN MOORE found himself forced to the conclusion that this was only another instance of the desire of ladies to push themselves forward into places where a large majority of medical men did not wish to have them.

Dr. HARE was impelled by his declared objection to the admission of women into the medical profession to *a fortiori* exclude them from the Pathological Society.

Dr. DICKINSON, recalling that the society had grown up into a flourishing manhood under certain rules, deprecated strongly a change which would entirely alter the tone of the meetings.

A vote being taken by show of hands, it was found that 23 members were in favour of the motion and 43 against it. The motion was accordingly declared to be lost.

The result of the ballot for the election of officers and council for the ensuing year was declared as follows:—President: Henry Trentham Butlin, D.C.L., F.R.C.S. Vice-Presidents: William Richard Gowers, M.D., Samuel West, M.D., Norman Moore, M.D., Seymour Sharkey, M.D., Arthur E. J. Barker, F.R.C.S., Frederic S. Eve, F.R.C.S., Samuel G. Shattock, F.R.C.S., and Frederick Treves, F.R.C.S. Treasurer: Sidney Coupland, M.D. Honorary Secretaries: J. H. Targett, M.S., and Richard G. Hebb, M.D. Council: Wilmot Parker Herringham, M.B., A. A. Kanthack, M.B., Hector Mackenzie, M.D., Julius Dreschfeld, M.D., G. Newton Pitt, M.D., H. D. Rolleston, M.D., Charles Scott Sherrington, M.B., F. Charlewood Turner, M.D., A. F. Voelcker, M.D., Hubert Montague Murray, M.D., Gilbert Barling, M.B., James Berry, M.B., W. G. Spencer, F.R.C.S., Anthony Bowlby, F.R.C.S., E. Hurry Fenwick, F.R.C.S., H. Betham Robinson, F.R.C.S., Stephen Paget, F.R.C.S., Bilton Pollard, M.B., Raymond Johnson, F.R.C.S., and C. E. Leopold B. Hudson, F.R.C.S.

OPHTHALMOLOGICAL SOCIETY.

Restoration to Normal Vision after Sympathetic Ophthalmitis.—Extraction of a Dislocated Lens with good Result.—Hereditary Optic Nerve Disease in a Mother and Three Children.—Spurious Optic Neuritis.—Lymphangiectasis of the Eyelids.—One-sided Paralysis of the Sixth Nerve associated with Contraction of the Orbicularis and Retraction of the Globe on Inward Rotation.—Transplantation of Skin to the Surface of the Eyeball for the Cure of Symblepharon.—Posterior Lental Opacity, with remains of Hyaloid Artery and Coloboma Lentis.—Detachment of the Retina treated by Drainage.—Case of Proptosis, Optic Atrophy, and Ophthalmoplegia.

A CLINICAL meeting of this society was held on May 7th, Mr. E. NETTLESHIP, F.R.C.S., being in the chair.

Mr. ANDERSON CRITCHETT exhibited a case illustrating Restoration to Normal Vision after Sympathetic Ophthalmitis. An attempt was made to save an eye which had been injured by a nail; the cornea and lens had been wounded. The attempt failed, and the eye was excised thirty-five days after the accident. Twelve days after the excision of the injured eye the other eye became inflamed and vision was reduced to < fingers. Under the use of atropine and mercurial inunction the inflammation subsided gradually and the vision was eventually restored to normal.—Mr. CRITCHETT also exhibited a case of Extraction of a Dislocated Lens with a good result. The patient was a middle-aged woman. Two months before her visit to the hospital she received a blow on the right eye by which the lens was displaced downwards. The left eye had been injured twenty-three years before; at that time there had been also an attack of inflammation in the right eye. The dislocated lens was removed with a vectis; there was no loss of vitreous and vision was eventually $\frac{6}{9}$. The section was within the cornea. The vectis was preferable to the spoon in some cases, as it sank into the lens and held it more securely.—The PRESIDENT expressed the opinion that the second case was another instance of recovery from sympathetic ophthalmia, which added to the interest of the operation that had been performed. The case also raised the question as to whether the removal of the injured eye affected the condition of the other.

Dr. R. D. BATTEN showed instances of Hereditary Optic Nerve Disease in a mother and three children. The mother's sight had failed when she was twelve years old; one of her sisters, aged thirty-three, had the same affection, also one brother. In the mother's case the vision was reduced to $\frac{6}{36}$; the optic discs were atrophic, and there was slight contraction of the visual field. In the younger generation one boy and two girls were affected; their sight had failed at about twelve years, the same age as the failure in the mother's case. In the boy vision was $\frac{6}{6}$ and there was a central scotoma. In the eldest girl there were pallor of the discs, several scotomata, and colour-blindness. In the other girl the signs were less marked. There was no other disease in the family.—Dr. HABERSHON said there was no doubt that this was the same disease as Leber described. The sight usually failed at puberty or the menopause, rarely as young as five or eight years.

Mr. HOLMES SPICER showed a case of Spurious Optic Neuritis. The patient was a boy aged eleven and a half years, whose refraction in each eye was emmetropic and whose vision was $\frac{6}{6}$. His visual fields were normal; his light and colour sense were normal. Both optic discs presented the appearance of the early subsidence stage of severe optic neuritis; their edges were quite indistinct; they were very pale; the vessels were covered in places with a light veil of haze; and there was swelling amounting to about 3 D. The patient had been under continuous observation for three years, and there had not been the slightest change in the appearance of the optic discs.—Mr. HARTRIDGE disapproved of the term "spurious"; he should regard the case as one of persistent optic neuritis in which the macular fibres had escaped.—Dr. R. D. BATTEN was reminded of those cases in which an appearance of neuritis confined to one side was caused by tilting of the optic disc. Mr. MARCUS GUNN inquired if any case had been recorded in which recovery had taken place after optic neuritis; he had once observed this in an adult.—Mr. SILCOCK mentioned a case exhibiting similar appearances in the fundi; the patient was thought to have cerebral tumour; the appearances were unchanged though they had been closely observed for a long time.—Mr. ADAMS FROST did not consider the long persistence of this condition without change necessarily excluded the presence of optic neuritis.—Mr. HOLMES SPICER, in reply, said he regarded the condition in this case as a physiological one simulating optic neuritis; if it were inflammatory it would be necessary to assume that serious inflammation could last for years without producing any impairment of function in such a delicate structure as the optic nerve.

Dr. D. MOWAT showed a case of Lymphangiectasis of the Eyelids. A small, soft, ill-defined swelling had first appeared in the lower lid; it increased slowly for some months, then spread to the upper lid. The swelling could be displaced from one lid to the other by pressure; if pressure was made on both lids the swelling appeared behind the ear of the same side; there were communicating channels over the zygoma. The swelling had steadily increased so that it was no longer possible to transfer the fluid from one part to another.

Dr. MACLEHOSE exhibited a case of One-sided Paralysis of the Sixth Nerve associated with Contraction of the Orbicularis and Retraction of the Globe on Inward Rotation. It belonged to a definite group of cases, of which he had seen several which all presented the above signs with some variations. Although he called it paralysis of the sixth nerve, he thought the condition was congenital and depended on variations in nerve-supply or muscular development.

Dr. BELL TAYLOR showed a case in which Transplantation of Skin to the Surface of the Eyeball had been effected for the Cure of Symblepharon. The patient, a male aged forty, had symblepharon following a burn by hot slag. The lower lid was firmly adherent to the globe, covering the lower third of the cornea. Repeated attempts to secure separation of

the adherent tissues by the usual methods failed. Eventually the lid was dissected off the eyeball, and a piece of skin from the upper eyelid of the uninjured eye was transplanted on the surface of the globe, to which it readily became united.

Mr. CARTWRIGHT exhibited a case of Posterior Lental Opacity, with the remains of the Hyaloid Artery and Coloboma Lentis. There existed a double notch in the lens, directed upwards and outwards, through which the suspensory ligament could be seen attached to the remains of the fibro-vascular sheath. The remains of the hyaloid artery appeared to be floating free in the vitreous.

Mr. F. S. EVE showed a case of Detachment of the Retina successfully treated by drainage. The patient, a young man, showed evidence of choroiditis and vitreous opacities before Christmas, 1895; in February the retina became suddenly detached. Treatment by iodide of potassium, pilocarpin, and the recumbent position had no effect. An incision into the sclera was made, a trocar and cannula were inserted, the fluid withdrawn, and a horsehair drain placed in the eye. Seven weeks after no detachment could be made out and the visual field was normal.

Mr. MARCUS GUNN exhibited a case of Proptosis, Optic Atrophy, and Ophthalmoplegia. A female aged sixty-seven suddenly had proptosis of the right eye. The third, fourth, and sixth nerves were paralysed, the optic nerve was atrophied, the pupil was dilated and inactive, and the conjunctiva œdematous. He thought the case was probably one of hæmorrhage from an aneurysm of the ophthalmic artery.—Mr. EVE had had a case with a similar history, which proved to be a pulsating sarcoma of the back of the orbit.

EPIDEMIOLOGICAL SOCIETY.

Infectious Sore-throats and Diphtheria.

A MEETING of this society was held on May 15th, Mr. SHIRLEY F. MURPHY, President, being in the chair.

Dr. GEORGE REID read a paper on Infectious Sore-throats and Diphtheria, in which he quoted Dr. Thorne Thorne's theory, propounded in the Milroy Lectures, that "attacks of so-called sore-throat exhibited under favouring conditions a progressive development of the property of infectiveness, culminating in a definite specific type indistinguishable from diphtheria." He then referred to the so-called pseudo-diphtheria, bacteriologically different from, though clinically identical with, diphtheria proper, and observed that there were probably several distinct diseases comprehended under the designation of follicular tonsillitis, also of a microbic nature, common quinsy being a simple catarrhal affection and scarlet fever and mumps not being properly included among throat diseases. He next described an outbreak originating in an infants' school, where an obstructed drain had been opened, and extending later to the other departments until fully a third of the 300 children had been attacked as well as the whole of the teaching staff and the master's family. Many were seriously ill and in all the swelling of the glands was very conspicuous, but in none was there any membrane or rash. The acute symptoms usually subsided after the fourth day, though the swelling persisted longer, but no case ended fatally. There could be little doubt as to the outbreak having been originally caused by the foul effluvia from the drain; but though the water-closets, urinals, and sink-wastes of the schools and house were all in direct connexion with the drain the extension of the disease beyond the infants' department occurring a week or ten days later was probably due to personal intercourse, yet there were but few cases in the village among children not actually attending school. He next referred to the account given by Dr. Wheaton in a paper read before the society two years ago of an outbreak in South London in 1890, when 150 or more children were attacked with similar symptoms and equally non-fatal results ensued, though these cases presented a transient filmy exudation, but without any paralytic sequelæ; and to a like epidemic in 1893 in a town with 10,000 inhabitants, in which also no diphtheritic bacilli were detected, as well as to other outbreaks described by Dr. Thresh and one observed by Dr. Kenwood at Finchley last year which was unmistakably connected with the supply of milk from a dairy where some of the cows were suffering from a febrile affection and had eruptions on the udders.

Dr. WILLOUGHBY said that the membrane is not an essential phenomenon of diphtheria, and they ought rather to speak of Löffler's, streptococcal, and staphylococcal diphtheria. The three microbes might be present singly or variously associated, Löffler's being the cause of the albuminuria and paralytic phenomena, the streptococci of the purulent, and the staphylococci of the fibrinous, exudations. All three bacteria, including Löffler's, have an extra-corporeal existence which explains the *de novo* origin of both true and false diphtherias.

The PRESIDENT remarked that progressive development was seen in cholera, persons arriving from an infected locality having the Koch's bacillus in their intestines though perhaps showing no signs of the disease.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Cancer of the Rectum.—Tubal Pregnancy.—Hæmatemesis and Melæna.—Exhibition of Cases.

A MEETING of this society was held on April 17th, the President, Mr. MAYO ROBSON, being in the chair.

Mr. LITTLEWOOD read the notes of eight cases of Cancer of the Rectum on which he had successfully operated during the past eighteen months. In all the cases he avoided making a preliminary colotomy, and he advocated this plan whenever the intestinal tract about the disease could be thoroughly emptied. The operations were all performed in the prone position, as recommended by Mr. Godlee, and the great advantages of this position were discussed. In three of the cases the growth was near the anus, and after removal the divided portion of the bowel was attached to the surface by deep sutures and drained posteriorly. In five cases the disease was high up, so that part of the sacrum was divided to facilitate removal. In four of these the divided ends of the bowel were united, a Murphy's button being used for this purpose in one case, but without a good result, and a Robson's bobbin for the other three; in one of these latter there was good union, all the motions passing the natural way, but in the other two a fistulous opening in the posterior part of the bowel was formed. These last-mentioned operations have, however, only been done six and four weeks ago respectively and there is every reason to think that the fistulous openings will become closed. Some of the patients suffered from temporary mania after the operation.—The PRESIDENT considered that the chief points in favour of this operation were the great facility in exposing the rectum, the use of the bougie in showing the limits of the bowel, and the stitching together of the ends of the intestine. He thought very highly of this method of operating.—Mr. W. H. BROWN preferred to have colotomy performed a few weeks beforehand.—Mr. WARD agreed with Mr. Brown, particularly in those cases where the growth affected the rectum and anus.—Mr. WOODCOCK spoke of the dementia following severe operations and mentioned four cases which had occurred in his experience.—Mr. LATOUCHE mentioned that one of Mr. Littlewood's patients whom he was attending already suffered from secondary deposits in the liver.—Dr. SOLLY thought that the dementia might be produced by fæcal poisoning.

Mr. E. O. CROFT read a paper giving the clinical history of three cases of Tubal Pregnancy. Case 1.—This patient was a multipara, thirty-seven years of age, who had for six weeks suffered from amenorrhœa and shown symptoms of pregnancy, followed by irregular hæmorrhage and pain for nine weeks. The decidua came away shortly after the bleeding commenced. The uterus was enlarged and displaced forwards by effusion behind the cervix. Abdominal section was advised, but operation was refused. The swelling subsequently increased, after which there was escape of tarry blood from the rectum, followed by septicæmia, acute peritonitis, and death. The necropsy showed an extra-peritoneal hæmatoma, a rupture of the tube downwards into the broad ligament, an opening into the rectum, and a small recent opening above into the peritoneum. Case 2.—This patient was twenty-seven years of age and had one child who was two years old. There was no history of pregnancy, neither were there any symptoms of it, but there had been irregular bleeding and spasmodic pains for twelve months. A tumour could be felt above the pubes, and there was also a soft swelling behind the cervix. On abdominal section tarry blood was found in the peritoneum, partially limited by false membrane above. The left Fallopian tube was enlarged, measuring three and a

half inches by one inch, and it was removed together with the ovary. It contained a tubal mole with the remains of the amniotic cavity and chorionic villi; the ostium was closed. The right tube and ovary were congested, but not distended; the ostium was patent. The patient recovered. Case 3.—This patient was a multipara and thirty-three years of age. Eight weeks after pregnancy was suspected there were irregular hæmorrhage and labour-like pains, continuing for three months. An oval tumour could be felt above the pubes on the right side. On abdominal section the tumour was found to be about the size of a lemon and consisted of the right Fallopian tube enlarged and embedded in dense adhesions. It was removed together with the adherent ovary, and was then seen to be unruptured and to be filled with a mole showing chorionic villi and an amniotic cavity; the ostium was closed.

Mr. SALISBURY read a paper on a case of Severe Hæmatemesis and Melæna. The patient was a sallow-complexioned woman forty-five years of age much addicted to tea-drinking and a sufferer from "chronic indigestion" unattended by gastrodynia. She ceased menstruating two years ago. On Feb. 28th she complained of a "sinking feeling" in the abdomen, and in the evening she became extremely collapsed, vomited two or three pints of venous-looking blood and passed two or three pints of very offensive tar-like motions. Ergotine was given subcutaneously and ice to suck; nutrient suppositories and enemata were also used. On March 2nd while straining at defecation she again vomited blood and on March 6th she became delirious. On March 7th she again passed copious tar-like and very offensive motions. She was now delirious and completely blanched; the pulse was not perceptible at the wrist and the heart sounds were scarcely audible. Injections of ergotine were given repeatedly and a pint of normal saline solution (one drachm to one pint) was injected into the vein at the bend of the elbow, after which there was a slight improvement. For the next few days the patient hovered between life and death, but by March 10th she was improving slowly; on March 30th she was able to get up, and a fortnight later she came downstairs daily.

Mr. H. SECKER WALKER showed two cases of Suppurative Disease of the Middle Ear and Mastoid Cells in which Stacke's operation had been performed. In one case the mastoid cells were so much diseased that a large cavity had been left in the bone and this had since been "papered" with epithelium, giving a good result with improved hearing and cessation of discharge. In the other case facial paralysis had occurred a week before operation and this had since quite passed off.—Mr. SECKER WALKER also showed a Suction Curette for soft cataract; it was made of glass so that it could be sterilised by boiling.

Dr. CHURTON showed a male patient aged eighteen years who was admitted into the Leeds Infirmary on Feb. 22nd with General Chorea. In 1894 he had rheumatic joints and for four days was unable to work. Slight chorea followed, but he continued to work and after some weeks recovered. In October, 1895, after kneeling in wet sand he had pain in both knees: his hands afterwards became painful and swollen, but he kept at work, and towards the end of January, 1896, he had apparently almost recovered. On Feb. 5th he had a violent quarrel with a relative, on Feb. 6th there were choreic movements in the right side of his face, his right arm and leg, and on Feb. 8th his right hand was swollen and painful. On Feb. 13th he was nearly well, but on this day a serious quarrel occurred with the foreman of his department, and on Feb. 14th the chorea returned in his right hand, quickly spreading to all his limbs. The case illustrated the general principle enunciated by Dr. Churton at a recent meeting of the society[1] and founded upon observations in thirty-three cases, that in a person about to be rheumatic the first point of attack is determined by local chill, injury, or shock. If in a young person the organ thus damaged be the brain chorea or some other cerebral disorder will be the first and sometimes the only result.

Mr. WEST (Morley) and Mr. LITTLEWOOD showed a boy aged fifteen years who had been operated on for Acute Intestinal Obstruction on March 9th, 1896. The obstruction was in the small intestine and was caused by a coil which had become adherent in the pelvis to the side of the rectum and had invaginated a portion of the rectal wall; this could be felt before the operation. The adhesion was about the size of a half-crown and was separated; it bled freely, and at the edges there was some purulent lymph with a distinctly fæcal odour. The parts were carefully sponged and the abdomen was closed without drainage.

Mr. LITTLEWOOD showed a man aged thirty-seven years on whom he had operated for Diffuse Popliteal Aneurysm, removing about twelve ounces of blood-clot together with the aneurysmal portion of the artery. The patient made an uninterrupted recovery and now walks about without any difficulty.

[1] THE LANCET, Feb. 22nd, 1896, p. 487.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Recent Results of the Treatment of Diphtheria by Antitoxin.—Hemianæsthesia.

A MEETING of this society was held on May 5th, Dr. ADOLPH BRONNER, President, being in the chair.

Dr. H. J. CAMPBELL read a paper upon Recent Results of the Treatment of Diphtheria by Antitoxin. After giving a summary of the statistics of the treatment both at home and abroad Dr. Campbell discussed in some detail the recent report of the medical officers of the Metropolitan Asylums Board hospitals, and pointed out that these statistics were not open to the same objections as some of the foreign records, in that the cases were all subjected to the examination of the medical man sending the cases up and to the expert opinion of the medical officer, in addition to the bacteriological examination of the throat, so that the patients were all suffering from clinical and not from what might be described as bacteriological diphtheria. The question of dosage was then referred to, and on the authority of Dr. Goodall it was stated that in the Eastern Hospital larger doses of antitoxin had been used recently with better results than they had before obtained. The mode of action of the remedy was then considered and the experiments of Fischel and Wunschheim were quoted in support of the view that the antitoxin does not function as a bactericide, nor does it simply neutralise the toxine, but apparently acts upon the tissue cells in such a way as to enable them to destroy, or at least to render inert, the injurious action of the toxine. It was pointed out that in all diseases associated with the presence of toxines it was of the utmost importance to keep the kidneys well flushed, as the toxic bodies were eliminated by these organs. The results obtained in the prevention of diphtheria by using the antitoxin as an immunising agent were next described, and Ohlmacher's and Biggs' observations upon the length of time that the immunity persists were referred to. In conclusion, an account was given of the pathological effects produced by the remedy itself.—Dr. S. JOHNSTON, Dr. GOYDER, and Mr. MERCER made remarks.—The PRESIDENT discussed the complications met with in diphtheria, and pointed out that since the introduction of the serum treatment the onset of paralysis was not prevented and there were more cases of nephritis. The question of the possible advantages to be obtained from the local use of antitoxin was raised, and Dr. CAMPBELL replied.

Dr. MAJOR read notes of a case illustrating the clinical significance of Hemianæsthesia. A man aged fifty years had been ailing for three months. There had been headache, deafness on the right side, failure of sight, slight failure of power of the right arm and leg, some numbness in the legs, and loss of taste and smell. There was no history of "stroke." When the patient first came under observation there was very slight motor failure on the right side, but there was complete right hemianæsthesia of the skin and of the mucous membranes and also of the special senses. The optic discs were clear; the field of vision was markedly contracted, especially on the right side. Perimetric tracings were exhibited. The patient looked well; there was no obvious paralysis, and no mental defect. The right plantar reflex was reduced. The question of diagnosis, the exact seat of the lesion, and its probable nature were discussed. It was pointed out that in cases of hemiplegia from hæmorrhage or thrombosis motion is often alone affected, because the posterior part of the internal capsule had escaped injury, the lenticulo-striate artery being situated in the anterior part. If in these cases sensation be more or less affected it is reasoned that the lesion has to some extent involved the posterior extremity of the internal capsule. In the case under consideration there was little motor paralysis but complete anæsthesia of one side involving touch, pain,

and temperature—the skin, mucous membranes, and special senses being all implicated. The differential diagnosis was discussed and the views of Ferrier quoted as to the results of section of the posterior division of the internal capsule. With regard to the eye troubles in lesions of the internal capsule the views of Gowers, Ross, and Ferrier were mentioned, the latter being of opinion that besides hemianopsia cases were occasionally found of crossed amblyopia, as in the one under consideration. The case was discussed by Mr. FARROW, Dr. H. BRONNER, and the PRESIDENT, and Dr. MAJOR replied.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

The Liver.

A MEETING of this society was held on May 6th, Dr. MUTCH, President, being in the chair.

Dr. W. B. RANSOM read a paper on the Liver. Attention was drawn to the remarkable power of regeneration of this organ. The functions of the liver in regard to fat, glycogen, and sugar were discussed and the conclusion drawn that the greater part of the liver glycogen is normally converted into sugar, not by a ferment, but by the hepatic cells. In regard to bile formation, the seat of blood destruction was considered and the view expressed that it normally commences all over the body and not exclusively in the spleen. Microphotographs were shown of the deposit of iron in the liver in pernicious anæmia. In the case of a man with biliary fistula the daily quantity of bile passed was found to average thirty ounces, the colour being always yellow. The stools remained inoffensive and the patient had a good appetite and digested all kinds of food. The reduction products of bilirubin were discussed and spectroscopically illustrated. Evidence was given of the identity of normal and pathological urobilin. The pigment of the fæces, stercobilin, was usually found to be largely urobilin, but in one case appeared to be mainly hydrobilirubin. Intermediate reduction products are also probably present in fæces. The relation of the liver to urea was also considered and the results obtained by Neucki, Pawlow, &c., with an Eck's fistula detailed. The power of the liver to detain and destroy poisons introduced into or manufactured in the alimentary canal was also pointed out.

Remarks were made by the PRESIDENT, Dr. HUNTER, and Dr. WATSON, and Dr. W. B. RANSOM replied.

CARDIFF MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—Surgical Measures in the Aged.

THE usual monthly meeting of this society was held on May 8th, Dr. EDGAR JONES, President, being in the chair.

Mr. HIER EVANS showed a Case of Diffuse Scleroderma in a boy aged nine years. No other members of the family suffered from a skin disease.

Dr. RHYS GRIFFITHS showed for Dr. HARDYMAN: (*a*) A very severe case of Pott's Fracture saved by conservative treatment, a large wound having been subjected to oxygen treatment; and (*b*) a Roentgen photograph taken by Mr. Allen showing Injury to the Internal Condyle of the Humerus.

Mr. J. LYNN THOMAS showed: (*a*) A Case of Bazin's Malady in a girl aged nineteen years. The symptoms coincided with Mr. Hutchinson's description of the disease. It was confined to the region between the knees and ankles, symmetrical, and had been treated for some months as a case of syphilis. The patient gave a perfect counterfeit synopsis of the manifestations of secondary syphilis. On Boxing Day, 1894, she was ravished (*sic*) in the train by an unknown man. She subsequently—about two months later—had "sores on the genitals," "skin eruption," "loss of voice," and "this disease on my legs." On close examination she turned out to be a *virgo intacta;* the "sores" were retention cysts on the labia minora, the "sore-throat" depended upon simple laryngitis to which she was liable, the "skin disease" was acne, and the "disease on her legs" was what Mr. Hutchinson has designated "Bazin's malady." (*b*) A series of Roentgen Photographs illustrating Foreign Bodies in the Hands, Fracture of the Forearm, Disease of the Elbow, and a Fœtus five months old, showing three rows of Ossific Centres in the Vertebral Column.

Dr. PATERSON showed: (*a*) A case of Unusual Hemispasm following Hemiplegia in a Child aged two years; and (*b*) the Bulbous Extremity of a Divided Spinal Accessory Nerve.

Dr. ALFRED SHEEN showed a man with a very Extensive Keloid on the Back following a Burn.

Dr. A. W. SHEEN read a paper on Surgical Measures in the Aged. The paper emphasised the importance of antiseptic surgery in operations and the urgency of allowing aged patients to get up soon after any injury or operation. Confinement in the recumbent position and carelessness in asepsis or antisepsis are frequent avoidable causes of death in the aged.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

A Few More Words on Strophanthus.—Exhibition of Cases and Specimens.—Lantern Demonstration.

THE eighth meeting of this society was held on May 6th, Dr. ARGYLL ROBERTSON, President, being in the chair.

Dr. G. W. BALFOUR read a paper entitled "A Few More Words on Strophanthus." He remarked on the importance of the subject and stated that they had been asked to put faith in strophanthus on the strength of a series of cases in which the employment of the drug was followed by the disappearance of dropsy, and in which the pulse tracings showed an apparent improvement in the pulse-rate and blood pressure. But the like, he said, happened before without either strophanthus or digitalis and happened daily even now. History, he thought, showed that many, if not most, cardiac cases in hospital required no treatment but rest. Drugs only were of permanent value which increased the elasticity of the myocardium, and this action could only be permanent when accompanied by a corresponding improvement in the general metabolism. This action was typically preserved by digitalis, the elasticity in the myocardium was increased, and this was accompanied by a rise in the general blood pressure. The only other member of the digitalis group which had succeeded in obtaining general recognition was strophanthus, but its action was essentially different from digitalis. Therapeutically it was used to prolong the cardiac diastole and to increase the contractile energy of the myocardium. Its disadvantages were its twofold action on the heart (small doses prolonging the diastole and large doses arresting the heart in systole) and its excessive energy as a poison. Again, strophanthus acted 3000 times more powerfully on the heart than digitalis and 100 times less powerfully than digitalis on the muscles of the arterioles. Thus any rise in the blood pressure produced by strophanthus was due to the systole of the heart and no action was produced similar to that seen in a case of bradycardia, and the rise of blood pressure was thus evanescent, and from the absence of any improvement in the metabolism of the myocardium the stimulating action of strophanthus must tend to exhaust instead of strengthening. Dr. Balfour next glanced at the action of strophanthus on the nervous mechanism of the heart, and maintained that it produced an effect typically that of a heart dying from exhaustion. Finally, he maintained that the action of strophanthus, like all its congeners of the Apocynaceæ, was that of a cardiac poison and not a cardiac tonic; in therapeutic doses it stimulated the heart to increased action, and by calling upon its reserve of energy, without improving its metabolism, it caused death in diastole from exhaustion. The more feeble the heart the greater the risk attending its action. Strophanthus he considered at all times an uncertain and dangerous drug to employ and one entirely unworthy to be called a remedy.—Dr. GRAHAM BROWN, Dr. JAMES RITCHIE, and others took part in the discussion.

Dr. ALEXIS THOMSON showed for Mr. ANNANDALE:—1. A patient after Plastic Operation of the Face for Deformity caused by Rodent Cancer. When he first came under notice he had been repeatedly operated on for the cancer, a gap being present in the position of the nose. The gap was filled up with tissues from the upper lip. The present drawback was that there was a strong growth of hair from the nose. 2. Two cases of Perforating Ulcer of the Foot. In the first case the posterior tibial nerve had been stretched and the ulcer had completely healed. The patient suffered from early tabes dorsalis. The second case was in an early stage. The ulcer was on the plantar surface of the great toe. The ulcer was anæsthetic and analgesic. Symptoms of peripheral neuritis were present. 3. A patient after operation

for Perforated Gastric Ulcer. The patient while walking was suddenly seized with pain in the abdomen about the region of the umbilicus. The pain was very severe and when first seen by his medical attendant he was manifestly very ill. During the evening he vomited and was sent to the hospital as suffering from intestinal obstruction. There was, however, no obstruction, and the diagnosis seemed to lie between perforated gastric ulcer and appendicitis. No evidence of appendicitis could be made out. There was a history of slight dyspepsia before the attack of severe pain. The abdomen was opened and the peritoneum was found to contain gas and turbid fluid, milk, egg, &c. Yellow lymph was present on the peritoneal surface of the stomach and intestine. An ulcer was found in the anterior wall of the stomach with a circular perforation. The ulcer was invaginated and a drainage-tube was left in the abdomen and the abdominal wound stitched up. The bowels moved next morning after a saline purge. There was some delirium, as was frequently seen in such cases, but the patient made an excellent recovery, and was now in good health. Mr. Thomson remarked that six days ago he had operated on a similar case in Mr. Annandale's wards; the patient was going on well.

Dr. JAMES CARMICHAEL showed a child seven years old. She had been admitted to the Sick Children's Hospital on account of inability to walk. Three months previously she had had an attack of bronchitis. On recovery from this she was found to be unable to walk. She now walked with a "waggling" gait and the attitude of a case of pseudo-hypertrophic paralysis. The whole muscular system was in a feeble state. The feet were markedly flat. No evidence could be found of disease of the nervous system. The electrical reactions of the muscles were normal.

Mr. DAVID WALLACE showed two cases with unusual features. The first was a man twenty-three years of age who was admitted to the Royal Infirmary suffering from tuberculous bone disease for which one foot was amputated. On returning to report himself a swelling was found on the right side of the head. Fluid was diagnosed. Under chloroform an abscess was opened. A sequestrum was found which, when touched by the examining finger, disappeared into a cavity between the skull and the dura mater. It was a case of tuberculosis perforans of the skull, a somewhat rare condition, and had given rise to no symptoms. The patient made an excellent recovery. The second case was that of a man aged thirty-six years who was trephined. While carrying wood he fell and was found unconscious. He was removed to the infirmary, where he was found to be in a very drowsy state with a wound over the left parietal region. The pulse was 42. The pupils were equal. He vomited, and the pulse rose gradually to 62. He was in a drowsy condition, breathing heavily, but not stertorously. The following day the pulse was quicker and the temperature rose to 102° F. He seemed more drowsy, and there was some paresis of the right arm. He had the appearance of cerebral irritation. Next day as he seemed to be getting worse Mr. Wallace operated. A portion of the left parietal bone was found and a circle of bone removed, but no hæmorrhage was discovered. The coronal suture was, however, noticed to be separated. Mr. Wallace then trephined on the right side, but found no gross hæmorrhage, merely small extra-dural hæmorrhage. The patient gradually became conscious and made a good recovery. In this case there seemed to have been first concussion followed by reaction, with the production of small hæmorrhages.

Dr. NORMAN WALKER showed a patient to whom Warts had been communicated by shaving.

Mr. CAIRD gave a Lantern Demonstration illustrating the Pathology of the Appendix Vermiformis.

Dr. NORMAN WALKER showed microscopic specimens—(1) from a case of Ringworm of the Scalp in an Adult—a very uncommon condition; and (2) the Germs said to be responsible for Eczema. They were found in mulberry-shaped collections.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases, Specimens, and Photographs.

THE concluding meeting of the session was held on May 8th, Dr. W. G. DUN being in the chair.

Dr. WALKER DOWNIE showed an infant the subject of Membranous Occlusion of the Left Nostril. The child was brought to hospital on account of noisy respiration and of inability to retain the nipple in the mouth when taking the breast, a condition which had been present since birth. Examination discovered a membranous diaphragm closing the left nostril less than a quarter of an inch within the orifice. There were evidences of syphilis in the child and Dr. Downie was disposed to regard the occlusion of the nostril as the result of an ulcerative process which had existed in intra-uterine life.

Dr. LINDSAY STEVEN showed a man twenty-two years of age who after a severe attack of enteric fever in May, 1895, developed three weeks after convalescence an extreme Spastic Condition of the Left Upper Limb especially marked in the flexors of the digits and elbow; a similar but less extreme condition appeared in the left foot. Sensation was undisturbed; the tendon jerks were exaggerated; there was no reaction of degeneration, and no history or evidence of syphilis. Dr. Steven had no doubt that the lesion was situated in the upper segment of the left motor tract, but its nature he regarded as very uncertain. He leaned rather to the view that it was thrombotic, leading to a gradual sclerosis in the motor cortical area.—Dr. STEVEN also demonstrated four cases of Enlargement of various Groups of Lymphatic Glands for the purpose of illustrating his opinion that in many such cases the distinction that ought to be made between true Hodgkin's disease and other lymphatic enlargements was not made. The most interesting member of the group was a lad aged nineteen who, after suffering from enlargement of the cervical and axillary glands for some months, began to develop evidence of paralysis of the third cranial nerve on the right side with, afterwards, great difficulty in walking and a tendency to fall backwards when not supported although the lower limbs were not paralysed. The case was described as a genuine case of Hodgkin's disease, with formation of a nodule or nodules exercising pressure on the central nervous system; there was no splenic enlargement. Dr. Steven concluded this part of his demonstration by showing a lympho-sarcomatous growth from the mediastinum. The malignant process had extended to the pleura, and large numbers of nodules had developed along the surfaces of the ribs and also in the subcutaneous tissue.—Dr. STEVEN also showed the Liver from a case of Congenital Absence of the Common Bile Duct removed from the body of a child who had died aged five months. The child had been jaundiced from birth, but had appeared in all other respects to be a perfectly normal child. On the morning of death the child had seemed to be dull and listless and cried when moved. Death occurred suddenly from a large hæmorrhage into the intestine. Post-mortem examination showed the absence of the common bile duct, the cystic duct terminating in a filamentous cord. The normal hepatic ducts were present, the capillary ducts in the liver being distended with bile. The liver itself was the seat of a fine cirrhosis. Dr. Steven drew attention to the rarity of the case as a complete record and to the comparatively long time which the child lived in apparently complete health and happiness.—Dr. R. M. BUCHANAN discussed the case and briefly described two similar cases which he had seen at the Royal Hospital for Sick Children.

Dr. C. O. HAWTHORNE showed the Suprarenal Capsules from the body of a woman aged fifty, the capsules being enlarged and almost completely caseous. The patient had been the subject of phthisis pulmonalis and there had been marked pigmentation of the skin of the trunk. The face was quite free from undue pigmentation, and there was no noteworthy darkening of the skin of the axillæ or of the genitals. There were no patches on the buccal mucous membrane. A contrast, however, was appreciable between the skin of the palms of the hand and that of the dorsum of the hand and the front of the forearm, there being in the last-mentioned situations a faint but distinct walnut-tinged colour which terminated abruptly at the base of the palm. This, together with the pigmentation of the trunk and some few but not severe attacks of vomiting, had been regarded as rendering a diagnosis of Addison's disease probable, and the patient's sudden death and the post-mortem examination confirmed this view.—Dr. HAWTHORNE also showed photographs and drawings of a case of Leucoderma. The patient was a woman aged forty-three years and the subject of symptoms pointing to chronic pathological changes in the lumbar enlargement of the spinal cord. There was also extensive brown pigmentation of portions of the trunk and limbs with intervening areas of skin almost entirely free from pigment. It was specially noteworthy that the distribution of this condition was almost exactly symmetrical, there being, for example, a white patch

over each elbow, each hip, and in the lower half of each forearm. Dr. Hawthorne suggested that this distribution must be taken as supporting the view that leucodermic patches are essentially dependent upon changes in the nervous system.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Suppurative Pericarditis treated by Drainage.—Leucocythæmia.—Empyema.—Exhibition of Cases.

A MEETING of this section was held on May 8th, Dr. WALTER G. SMITH being in the chair.

Dr. O'CARROLL read an account of a case of Suppurative Pericarditis secondary to Pneumonia which had been treated by free and constant drainage. The pericardial cavity gradually contained less and less pus, but the patient died from asthenia two months afterwards, and the walls of the pericardial cavity were then found to be adherent everywhere except in front, where there was about a drachm of pus.—Dr. M. A. BOYD related the particulars of a case in which he drew off four ounces of serous fluid and the patient recovered. The temperature might be normal though there was pus in the pericardium. In children broncho-pneumonia often preceded the collection of fluid in the pericardium; he thought that paracentesis should be resorted to more frequently than at present in cases of pericarditis in children.—Dr. HEARD drew attention to the observation of Dr. Ewart that a patch of dulness might be detected at the inner side of the angle of the left scapula at the base of the left pleura as an early symptom in these cases.—Dr. DRURY asked what was the exact site selected for the operation. It had been recommended some time ago to tap the pericardium as close as possible to the left margin of the sternum in the fourth interspace, but he had examined a large number of subjects in the dissecting-room and had found that in a considerable proportion of cases either the internal mammary artery or vein would be wounded by such a proceeding.—Dr. FINNY said that he had only met with one case of suppurative pericarditis requiring operation. He tapped the pericardium one inch outside the sternum, between the fourth and fifth ribs, and drew off eight ounces of purulent fluid, giving immediate relief, but a second attempt to perform the same operation with a larger needle did not succeed, as for some unaccountable reason he failed to reach the pericardium. The post-mortem examination revealed a large collection of pus in the pericardium. He thought that pericarditis was comparatively a rare disease, and that extensive pericardial effusion was very rare, the consequence being that very few cases required to be tapped, but tapping should be resorted to when the symptoms did not yield to other forms of treatment, especially when the effusion was believed to be purulent.—Dr. O'CARROLL, in reply, said that there was no infection of the left pleura, as the fluid which it contained was a clear serous fluid due to the cardiac failure which occurred at the end of the patient's life. Though he had carefully examined the patient's chest he had not remarked the symptom referred to by Dr. Heard. In making the puncture he had selected a point in the fourth space a thumb's breadth internal to the nipple line.

Dr. CRAIG read a short paper on Leucocythæmia and exhibited stained blood films and photographs of a case of the lymphatic type of this disease. The patient had died in hospital after an acute illness of two months' duration, his symptoms being general enlargement of all the lymphatic glands, pallor, severe epistaxis, diarrhœa, temperature varying from 99° to 103° F., dyspnœa, slight increase in size of spleen and liver, but no tenderness over the bones. In the blood there was a diminution in red cells to at least one-third of the normal number and an absolute and relative increase of the leucocytes, so that the proportion of white to red averaged about one to twenty. Dr. Craig drew attention to the recent description by Kanthack and Hardy of the leucocytes found in normal blood, and said that in his case all the forms of white cells could be seen, although the increase was entirely due to the presence of lymphocytes. He pointed out that a purely lymphatic form of leukæmia was rare, that its victims were among the young, and that the disease generally ran an acute and rapidly fatal course. In the present instance the patient was an Italian nineteen years of age, and the illness terminated fatally within two months from its onset. The severe epistaxis and persistent diarrhœa required symptomatic treatment so that arsenic was not given a fair chance and bone-marrow was not tried.—The CHAIRMAN thought that the clinical significance of the various leucocytes was still very doubtful. He stated that the continuous use of arsenic in chronic cases was not devoid of danger, as peripheral neuritis might ensue; he also mentioned the great chemical changes that occurred in the urine in this disease, the uric acid and the xanthine bodies being increased.—Dr. BOYD mentioned that he had treated a case of the lymphatic form in which there was marked tenderness of the tibiæ, sternum, and ribs. Under arsenic there was distinct improvement (proportion of leucocytes 1—300). The patient was then put on bone-marrow, but a relapse occurred (leucocytes 1—20). On resuming the arsenic treatment improvement again took place and the patient returned to the country, where, however, he relapsed again and died in three or four months.

Dr. A. R. PARSONS read notes of a case of Extensive Empyema.—The CHAIRMAN said that in such cases the heart was generally the first organ to return to its normal position. After aspiration the effects of the diplococcus of pneumonia seemed more amenable to treatment than those of the streptococcus, so that the examination of the pus was of the greatest consequence. He agreed with Dr. Parsons that a peculiar tympanitic note on percussion and roughness on breathing were often the first symptoms in such cases.

Dr. A. R. PARSONS also exhibited a case of Atresia Auris and Unilateral Facial Paralysis occurring in a female patient and a case of Hemichorea.

Reviews and Notices of Books.

Abdominal Tumours and Abdominal Dropsy in Women. By JAMES OLIVER, M.D., F.R.S. Edin., Physician to the Hospital for Women, Soho-square, &c. London: J. and A. Churchill. 1895.

THIS little book consists of 281 pages of large print, divided into twenty-six chapters, in which various swellings met with in the abdomen, ranging from pregnancy to cancer of the liver, are more or less fully considered. It will be seen that while several of the tumours described are those more particularly belonging to the department of gynæcology, a large number, such as tumours produced by enlargement of the liver, enlargement of the gall-bladder, tumours of the pancreas, and tumours connected with the spleen and kidney, belong to general medicine. We think, however, that the author has done right to include them, as the diagnosis of any particular abdominal tumour involves to some extent a knowledge and exclusion of all the rest.

Contrary to the usual practice, the author does not give us any information as to the intention or aim of the work, for he does not supply a preface. The book very properly begins with the diagnosis of pregnancy in its various phases. It is hardly possible to lay too much stress on the need for acquiring a practical familiarity with all the physical signs of pregnancy, for there is no subject in which mistakes are more frequently made—mistakes which necessarily tell to the disadvantage of those making them, as well as of their patients.

In what appears to be intended to be a monograph it might perhaps be said that some of the cases given under the heading Utero-gestation are a little trite and elementary—e.g., Case 4, on page 10, entitled Conception occurring while Menstruation was held in Abeyance by Lactation. This is a matter of frequent occurrence; no doubt a case of this kind is instructive to a student beginning to work at the subject, but in writing for those who may be presumed to have had a certain amount of general experience so elementary a piece of information would seem a little superfluous. The same may be said of Case 5, entitled Pregnancy in a Woman

who ever since the Establishment of Menstruation had Menstruated with great Irregularity.

We observe in the section devoted to Hydatid Mole that the author says that "on vaginal examination portions of the mole may be found hanging through the cervix." This is certainly contrary to the general experience except in cases where the mole is actually in process of being spontaneously expelled. In the chapter on Fibroid Tumours of the Uterus, Case 7, Uterine Fibroid producing Retention of Urine after the Menopause, illustrates what has become more generally recognised of late—viz., that it is by no means rare for these tumours to give trouble even after the change of life.

In Chapter VII., on Hæmatometra and Hydrometra, which, by the way, is a very short one, only consisting of two and a half pages, the author recommends for the treatment of imperforate hymen that a small opening should be made and after the bulk of the fluid has escaped that the opening should be enlarged, but does not say in what way the opening is to be made, whether by the knife or scissors or aspirating needle, or by the method which is generally considered best nowadays—viz., with Paquelin's cautery. In speaking of Ventral Hernia he says in mild cases much good may accrue from galvanism and the administration of tonics, but in others a properly adjusted abdominal belt is imperative. He omits any mention of the operative treatment of this condition.

The American Year-Book of Medicine and Surgery; being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-books of the leading American and Foreign Authors and Investigators. Under the general editorial charge of GEORGE M. GOULD, M.D. London: The Rebman Publishing Co., Limited. Philadelphia: W. B. Saunders. 1896. Price 38*s*.

THIS handsome and bulky volume forms a welcome addition to the somewhat extensive series of year-books which aim at presenting a critical digest of contributions to every branch of medical and surgical literature that have appeared within the preceding twelve months. The work before us deals with the period from July, 1894, to June, 1895, and it is difficult to know which to admire most—the research and industry of the distinguished band of experts whom Dr. Gould has enlisted in the service of the year-book or the wealth and abundance of the contributions to every department of science that have been deemed worthy of analysis. Publications such as this serve to bring home to us the fact that in all parts of the world there is constantly increasing activity in ever-widening circles for the advancement of scientific knowledge and the promotion of sound medical and surgical practice. As regards the work itself it is much more than a mere compilation of abstracts, for as each section is entrusted to experienced and able contributors the reader has the advantage of certain critical commentaries and expositions, where such seem to be needed, proceeding from writers fully qualified to perform these tasks. It would be impossible to treat such a work as if it were an ordinary manual or text-book; there is no single critic who could presume to offer an opinion as to whether the matters dealt with in each and every section are of adequate importance or whether they have been suitably noticed. It may, however, be taken as certain that as regards method of arrangement of subjects, their proportionate distribution, and the lucidity with which they are treated this year-book is of much excellence. The following is a list of the departments and of the contributors to them. General Medicine: Dr. W. Pepper and Dr. A. Stengel; Surgery, Dr. W. W. Keen and Dr. J. C. Da Costa; Obstetrics, Dr. Barton C. Hirst and Dr. W. A. Newman Dorland; Gynæcology, Dr. J. M Baldy and Dr. W. A. Newman Dorland; Pediatrics, Dr. L. Starr and Dr. Thompson S. Westcott; Nervous and Mental Diseases, Dr. A. Church and Dr. H. J. Patrick; Dermatology, Dr. W. A. Hardaway and Dr. C. F. Hersman; Orthopædic Surgery, Dr. Virgil P. Gibney and Dr. Homer A. Gibney; Ophthalmology, Dr. H. F. Hansell and Dr. C. F. Clark; Otology, Dr C. H. Burnett; Diseases of the Nose and Larynx, Dr. E. Fletcher Ingalls and Dr. T. Melville Hardie; Pathology and Bacteriology, Dr. J. Guiteras and Dr. D. Riesman; Materia Medica Experimental Therapeutics, and Pharmacology, Dr. H. A. Griffin and Dr. Van Horne Norrie; Anatomy, Dr. C. A. Hermann; Physiology, Dr. G. N. Stewart; Hygiene, Medical Jurisprudence, and Chemistry, Dr. H. Leffmann. The book is furnished with an admirable index—a *sine quâ non* in a work of reference—and is also illustrated by engravings and coloured plates reproduced from articles quoted. It is emphatically a book which should find a place in every medical library and is in several respects more useful than the famous "Jahrbücher" of Germany. It has, however, one blemish which to many may perhaps seem but venial. Much as we admire this very excellent review of medical and surgical progress we cannot refrain from regretting that the learned editor—himself a lexicographer—should have adopted some of the "new spelling," which, although advocated by some very eminent men, seems to us to be a retrograde step and one destructive of etymology. Dr. Gould has done this, he says, in his preface, "in the interest of much-needed brevity and simplicity"; but although he may succeed in familiarising us with such elisions as occur in the words "chlorid," "chlorin," "iodid," "iodin," "quinin," "aceton," just as we have long been used to "labor," "color," and "hemorrhage," it will take longer for even the mildest purist to be reconciled to "anemia," "hemoglobin," "uremia," "hemoptysis," "pyemia," and the even more startling "edema," and "esophagus," which are but samples of the manner in which the diphthong is here ignored. Nor can we pretend to prefer "goiter," "center," "pathologic," "histologic," or "physiologic" to the recognised spelling of the words these terms represent. Has Dr. Gould in view the further extension of this system in successive year-books, and having accustomed us to these samples is he meditating a further driving in of the wedge and the elision of all mute consonants also? If so, we fear that what may be a gain to the cause of phonetic spelling will be a loss to literary style and accuracy, and Dr. Gould himself may have to remodel his famous dictionary.

Surgical Pathology and Morbid Anatomy. By ANTHONY A. BOWLBY, F.R.C.S. Eng., Assistant Surgeon to St. Bartholomew's Hospital. Third edition. London: J. & A. Churchill. 1895. Pp. xxiii. and 640. Price 9*s*.

PATHOLOGY holds at the present time a place very different in importance from that which it occupied twenty years ago. The constant progress that has been made in all its departments of late years has converted it from one of the minor branches into the chief branch of medical science, for it is only by a correct pathology that we can prevent disease; and on a true knowledge of pathology therapeutics, to be successful, must be based. The volume before us is one of the most satisfactory of the smaller text-books on a subject often too scantily treated in the ordinary manuals of surgery. In noticing the first edition of this work in 1888 we spoke with approval of the care which had evidently been bestowed upon it, and we are glad to see that this the third edition is an improvement even on the two preceding issues. The descriptions of pathological conditions are accurate and concise, yet conciseness has not been gained at the expense of accuracy and the descriptions are sufficiently full for any student's requirements. All parts of the work have been brought

up to date, but the present edition differs from its predecessors chiefly in the fuller account which has been given of bacteriology, and this is due to Dr. Kanthack, Lecturer on Pathology at St. Bartholomew's Hospital, who has rewritten the chapter on Micro-organisms in their relation to Pathological Processes, and has also added to the information regarding pathogenic bacteria in various parts of the book. Twenty new illustrations have been added to the 185 present in the second edition. The book may be safely recommended as a trustworthy handbook to the science of surgical pathology.

Pediatrics: the Hygienic and Medical Treatment of Children By THOMAS M. ROTCH, M.D., Professor of the Diseases of Children at Harvard University. Two Vols. Edinburgh and London: Young J. Pentland. 1896.

FROM several points of view this is one of the most important works on the diseases of children which has appeared for many years. It differs from previous text-books in the large amount of space devoted to the natural development of children from birth to puberty and to the question of natural and artificial feeding, and also in the remarkable wealth and excellence of its illustrations. These latter are for the most part good mechanical reproductions of photographs, but there are also a number of accurately coloured plates. The book is almost over-illustrated, but this, after all, is a fault in the right direction, and it would be hard to find a work of the kind in which photography has been more successfully employed.

The text takes the form of lectures, apparently as delivered at Harvard University, and they are fifty-three in number. The first four are devoted to an account of the fœtus at term and the normal development of the infant, nor can even this large amount of space be considered too much when it is reflected how widely the anatomy and physiology of the infant differ from those of the adult. The subject is one which is usually passed over in a short introductory chapter, but Professor Rotch has here collected facts and statistics from the literature of all countries so as to furnish a valuable work of reference. And in this he has done good service, since knowledge of this kind must lie at the root of the successful recognition and treatment of children's diseases. After a good practical lecture on nursery hygiene he passes to the subject of infant feeding, to which no less than six lectures are devoted. This is a question of which Professor Rotch has made a very special study, and there is no man more qualified than he to write on it. To him is due the establishment of milk laboratories in America, the first having been opened in Boston in 1891. The amount of detailed care which has been spent on the matter is marvellous, and a perusal of the account here given may well make Englishmen blush that we are so far behind America in our artificial feeding. The most rigid care is taken in assuring purity of source of the milk and in preventing its subsequent contamination; at the laboratory it is separated by a centrifugal apparatus, sterilised, and re-combined in accordance with the physician's prescription. The physician can order any percentage of fat, sugar, and proteid within reasonable limit which he may choose just as he would order a prescription at a druggist's. So novel and excellent a departure is well worthy of imitation in this country, and, indeed, there are already signs of its being taken up. But for the benefit of that majority of mankind which has no milk laboratory within reach Professor Rotch gives complete directions for the home modification and sterilising of milk by means of simple and inexpensive apparatus which should prove of great practical utility. A special chapter on premature infants and their treatment completes this part of the book.

The succeeding part, dealing with the diseases of children, is also of considerable though unequal merit and bears throughout the stamp of originality, based as it is largely on the author's own experience. More than seventy pages are devoted to a study of the blood in childhood, in health and in disease, a point to which Professor Rotch justly attaches great importance. The account is very full and excellent and is followed by a full bibliography of the subject, which will make it a valuable work of reference for some time to come. The diseases and malformations of the newborn are treated in a separate section of three chapters. The order in which the systematic diseases of children are discussed is occasionally erratic. It is difficult to perceive the advantage of separating diphtheria and epidemic influenza from the specific fevers and treating the first-named under the heading of diseases of the mouth, nose, and pharynx, while influenza figures amongst the "unclassified diseases." This, however, matters little so long as the accounts given are good, which, indeed, they mostly are, though the different sections are, as we have said, not all of equal merit. The chapter on rickets may be instanced as inadequate to the importance of the disease—at least to the mind of an English physician. A valuable feature of the book lies in the frequent introduction of short accounts of illustrative cases. Temperature charts are also largely reproduced, but in a form which renders them strange and unpleasing to the eye, for the morning temperature is inserted vertically under that of the preceding evening, an arrangement which is at variance with fact and has nothing to recommend it. The worst which can be said of the book is that it is not all of the same great excellence as the introductory part. But Professor Rotch has produced a work which must have a standard place in the literature of children's diseases, and which no one studying the subject can afford to neglect.

Klinische Vorlesungen über Syphilis. Von Dr. E. VON DÜRING, Professor für Dermatologie und Syphilis an der Kaiserlichen Medizinschule in Konstantinopel. (*Clinical Lectures on Syphilis.* By Dr. E. VON DÜRING, Professor of Dermatology and Syphilis at the Imperial School of Medicine, Constantinople.) Hamburg und Leipzig: L. Voss. 1895. Pp. xvi. and 320.

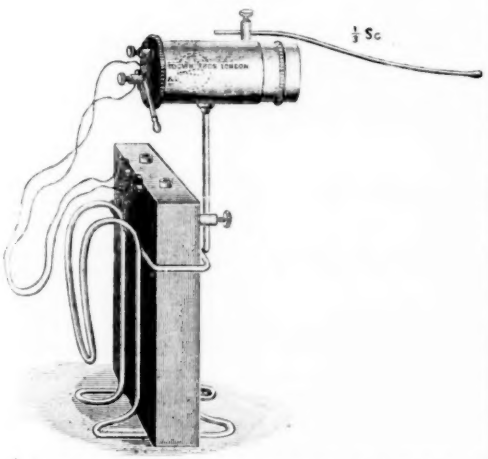
THESE twenty-two lectures were delivered in French at the Imperial School of Medicine at Constantinople and have been translated into German for the use of the medical men attending the Haïdar-Pascha Hospital. Though the author expressly disclaims in his preface that these lectures form a complete text-book, we cannot but think that the work contains a very full and able exposition of the present knowledge of syphilis. As might be expected from Dr. Düring's position the skin affections caused by syphilis receive a greater share of attention than is usually accorded to them in most treatises on the subject; the author points out that so far as the skin at least is concerned no sharp line can be drawn between secondary and tertiary affections, that the manifestations attributed to these stages are often so mingled that they cannot be satisfactorily separated. Dr. Düring looks upon the papule as the fundamental lesion in all syphilides, and considers that all the other forms, such as the squamous, the vesicular, and the ulcerating, have developed from the papule. The author recognises a syphilitic neuritis and thinks that this condition accounts for many of the chronic pains which so often occur among the sequelæ of syphilis. The absence of any illustrations is accounted for by the work being merely a reprint of lectures, and we can understand that they were not essential for those for whom the book was intended—namely, the students attending the author's clinic; but it detracts somewhat from the value of the work for the ordinary reader.

New Inventions.

ELECTRIC HAND LAMP.

A FOUR-VOLT accumulator, carried in a light wire stand, is the source of electric power. The lamp, a small 3½-volt incandescent one, is brilliantly lighted by a current of rather more than half an ampère. The beam of light, rendered parallel, convergent, or divergent by a three-quarter inch focal length bi-convex lens in a sliding mount, can be so directed

FIG. 1.



Stand, Accumulator, and Lamp, with Wire for Swab attached.

as to brightly illuminate the fauces without falling also upon the lips or teeth. A binding-screw on the top of the lamp case forms an attachment for the end of a wire swab (as shown in Fig. 1) for bacterioscopic examination, thus leaving the other hand available for the tongue depressor. The incandescent lamp is, of course, somewhat overworked, but it is inexpensive and is so mounted as to be easily renewable.

FIG. 2.

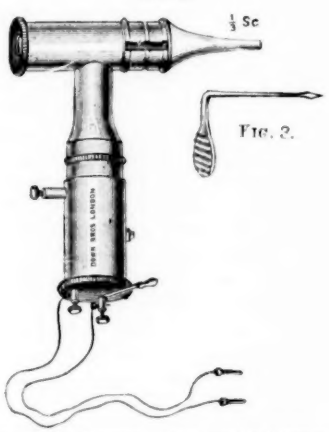


FIG. 3.

Lamp, with the Otoscope attached, and the Myringotome.

The lamp is detachable from the pin which fixes it to the front of the stand. After two years' use the accumulators are still in excellent working order.

The lamp is furnished with a flange for the attachment of a 'Brunton's" otoscope (Fig. 2) modified by having a slot cut in it so as to permit of the use of a specially shaped myringotome (Fig. 3) through it. The membrana tympani is very well illuminated by the electric lamp, and operation upon it is rendered easy. The lamp has been made for me by Messrs. Down Brothers, 5 and 7, St. Thomas's-street, Borough, S.E.

E. O. HOPWOOD,
Resident Medical Officer, London Fever Hospital, Islington.

RED CROSS PERFUME GERMICIDE.

WE have received from the Red Cross Germicide Company, Gresham-street, E.C. a sample of their "perfume germicide" and a convenient form of inhaler. The germicide consists of an alcoholic solution of a fragrant essential oil. The essential oil separates on addition of water, which develops its agreeable smell considerably. The inhaler in fashioned on the principle of an ordinary wash-bottle—i.e., it consists of a container with two tubes passing through the cork. One tube dips below the surface of the fluid in the container and the other ends at a point above the level of the fluid. By inhaling through tube No. 2 air is drawn through tube No. 1, and the fluid reaches the lungs charged with the volatile constituents of this fluid. In tube No. 1 is a small ball valve to prevent regurgitation in cases of coughing. The apparatus affords a handy and inexpensive method of inhaling medicated vapours, although there is nothing very new about it. It was suggested by Dr. O. Siemon of Cottbus, Germany.

A NEW MILK STERILISER.

WE have received from Mr. J. L. Aymard of Ipswich a new and simple apparatus for the sterilisation of milk by heating it rapidly and effectually in such a manner that it is not altered by evaporation. It consists of two parts—an ordinary saucepan to hold boiling water for the supply of steam and the milk container, which is surrounded by a tin plate cylinder or jacket, the intervening space of about half an inch in width being filled with steam when in use. This cylinder is open at the bottom, fits closely into the top of the

saucepan, and has a lid, so that the milk container is everywhere surrounded by steam except where its spout projects externally. The manner of using it is very simple. Some water having been made to boil in the saucepan the jacketed milk container is placed in position, and the whole is set over a good spirit-lamp or fire for about five minutes, which is sufficient to bring the milk to a temperature exceeding 200° F. without giving it the disagreeable flavour due to over-heating or "burning" which is so common with ordinary boiled milk. This apparatus enables milk to be very quickly sterilised for the use of an infant in small quantities as required, and there is of course no separation of the cream, so that the result is better than when a number of small bottles of milk are treated at one time, according to the usual practice, for when these bottles become cold the cream rises and sticks around the narrow necks. An important advantage of sterilisation is that it prevents any risk from the pathogenic organisms so frequently conveyed by milk, such as those of tubercle, scarlet fever and enteric fever. A thermometer is not essential, but it can be supplied if required. The sterilisers are made in sizes capable of treating amounts of milk varying from three-quarters of a pint to six gallons; the prices range from 3*s.* 6*d.* to £5 5*s.*, the latter including a portable furnace and copper. The makers are Aymard's Patent Steriliser Company, 19A, Coleman-street, E.C.

THE LANCET.

LONDON: SATURDAY, MAY 23, 1896.

THE wheels of progress at the Royal College of Surgeons of England, which had been clogged and seemed likely to remain at a standstill for an indefinite period, have been freed from some of the impediments which had caused the deadlock and are once more steadily though deliberately revolving. The overwhelming vote of the Fellows of the College in favour of the principle of representation of Members of the College on the Council recorded at the half-yearly meeting of the Fellows in January last ensured the defeat of the report of the Deputation Committee, which virtually recommended the Council not to make any concession either to the Fellows or to the Members and the acceptance for the moment of an amendment moved by Mr. TWEEDY and seconded by Mr. RIVINGTON to this effect: "That the recommendations of the Deputation Committee be not adopted, but that a poll of the Fellows be taken respecting the motion passed at the general meeting of Fellows on Jan. 2nd in favour of giving to the Members of the College direct representation upon the Council, and that a committee be appointed to prepare for the approval of the Council an elucidatory statement of the subject in question, together with the interrogatories which shall be submitted to the Fellows." This amendment was carried by 12 votes to 11, but when put as a substantive motion it was moved by Sir WILLIAM MACCORMAC and seconded by Mr. BRYANT: "That before the Fellows are addressed upon the subject the Council do take into consideration at an early date the question whether Members should or should not be directly represented on the Council." It will be observed that the terms of this resolution were in themselves ambiguous, and, naturally interpreted, imply that the Fellows were to be addressed as soon as the Council had taken the subject of the representation of Members on the Council into consideration, and, therefore, that the resolution was not antagonistic to the poll of the Fellows proposed in the resolution of Mr. TWEEDY. When put to the vote twelve members of the Council voted for the resolution and eleven against, one vote having been transferred from one side to the other. The resolution, being then put as a substantive resolution, was carried, and set aside Mr. TWEEDY'S motion. At the March meeting the Council took the subject of the representation of Members of the College on the Council into consideration, with the result that the following resolution, moved by Sir WILLIAM MACCORMAC and seconded by Mr. BRYANT, "That, as the members of this Council represent the body corporate of this Royal College and consequently its Members as well as its Fellows, it is the opinion of this Council that no further representation of the Members is desirable," was carried by eleven votes to eight, two members of the Council abstaining from voting and three of reforming tendencies being absent. Thus, by a fortuitous concurrence of adverse circumstances the motion for a poll of the Fellows was lost and a feeble resolution opposed to the representation of Members of the College on the Council was carried by less than half the Council.

It was not to be expected that the reforming members of the Council would acquiesce in a fiasco which placed the question in a false position and entirely obscured the real state of opinion on the Council. Hence it was that notice was given for the re-discussion of Mr. TWEEDY'S motion and of the adverse resolution passed at the March Council meeting, and both subjects were re-opened at the meeting of the Council held on the 14th inst. Mr. TWEEDY moved, and Mr. RIVINGTON seconded, the resolution: "That a poll of the Fellows be taken respecting the motion passed at the general meeting of Fellows on Jan. 2nd in favour of giving to the Members of the College direct representation upon the Council, and that a committee be appointed to prepare for the approval of the Council an elucidatory statement of the subject in question, together with the interrogatories which shall be submitted to the Fellows." This resolution was carried by a considerable majority, thus proving that it had only been lost on a previous occasion through misapprehension on the part of some of the members of the Council. After the adoption of this resolution Mr. RIVINGTON moved, and Mr. WILLETT seconded, the motion, "That the following resolution, proposed by Sir WILLIAM MACCORMAC, seconded by Mr. BRYANT, and carried by 11 votes to 8, be rescinded—viz.: 'As the members of this Council represent the body corporate of this Royal College, and consequently its Members as well as its Fellows, it is the opinion of this Council that no further representation of the Members is desirable.'"

It was too much to anticipate that the reforming zeal of the members of the Council would extend so far as to rescind a resolution. That zeal had been exhausted when the resolution for a poll of the Fellows had been passed and could no further go. The motion was lost, not on account of the strength of the opposition, but from lack of support by those who would never have voted in favour of the resolution which it was desired to rescind. It would certainly have been better if the resolution of the Council adverse to the claims of the Members had been expunged, because it tends to complicate the position and may lead, unless adequately explained, to the loss of votes which might otherwise be recorded in favour of the representation of the Members on the Council. A great deal will depend upon the "elucidatory statement" which has to be drawn up by the committee appointed by the Council and upon the questions submitted to the Fellows. It ought to be fairly represented in the "elucidatory statement" that opinion in the Council is very evenly balanced in regard to giving the Members of the College representation on the Council, that there is no clear majority either way, and that there has not been a majority of the Council voting for the adverse resolution.

It is high time in the interests of the College that this question should be settled and settled in favour of the Members of the College. No one can find fault with the tone and temper of the Society of Members on this question. They have been moderate and dignified. It was scarcely to be expected that, desiring as the Members naturally do to

be represented by Members of the College, they should have taken the initiative and declared their willingness to be contented with representation by Fellows of the College, but, we believe, that should the Fellows of the College declare themselves favourable to the principle of representation of the Members and give a largely preponderating vote for representation by Fellows, the Society of Members would be ready to accept the decision and give to this method of representation a fair trial. It must be recollected that what is wanted is the addition to the Council of representatives of general practitioners, and no doubt these can be found both among the Fellows and the Members of the College, so that from this point of view it appears to be of minor importance whether Fellows or Members become the representatives of the Members of the College. The contentment and the unity of the great constituency which ought to be the pride of the College and its governing Council are the chief objects to be obtained, so that all connected with the institution may feel personally interested in its prosperity and work together for the common good. We firmly believe that the Fellows of the College generally will rise to this great opportunity and that they will show unmistakably that the resolution passed by the Council in a purely accidental manner does not reflect the matured opinion of the Fellows at large. We shall recur to this subject as soon as the committee has drawn up the elucidatory statement and the questions it has been appointed to prepare.

BENEDICT the Fourteenth, or MACAULAY'S "favourite Pope" according to TREVELYAN, was once asked by a nephew who wanted to follow in his uncle's footsteps what books he would recommend as best adapted to fit him for such a career. "You could not have consulted a better authority," was the Holy Father's reply. "Every year I make a list of the publications which are in all respects most worthy of perusal, particularly by aspirants such as you," and therewith handed him the last "Index Expurgatorius." The saying was even more wise than it was witty. None knew better than the able and learned Pontiff that "the most opposite opinions can make a plausible show of evidence when each has the statement of its own case, and it is only possible to ascertain which of them is in the right after hearing and comparing what each can say against the other and what the other can urge in its defence." He would even have concurred with another great thinker of our century, that, so far as the plastic and energising intellect is concerned, "a waking error is—aloof from practice—better than a sleeping truth," and that "there is no proportion between the possession of facts and the development of the mind in which they are deposited." Every schoolboy in science "is now familiar with more truths than PLATO or ARISTOTLE ever dreamed of knowing, yet" (continues the same authority), "compared with the Athenian or the Stagyrite, how few even of our masters of modern science rank higher than intellectual barbarians." Living in the middle of last century, BENEDICT the Fourteenth was in this respect at one with the most authoritative thinkers of the nineteenth century, and if on the part of the Curia he sanctioned the periodical issue of the "Index Expurgatorius" it was on grounds of which his successors in office seem not yet to have appreciated the wisdom or the wit.

On April 20th last there was affixed to the gate of St. Peter's in Rome the "Index Expurgatorius" for the year, and in it are mentioned by name at least five treatises on the subject of criminal anthropology. The medical schools, particularly at Turin and Naples, which seek to find the nexus between organisation and development, between physically conditioned propensity and moral responsibility, are directly struck at and their authors put in the pillory of the Roman Catholic Church for attempting to bring the two factors of social life into the area of inductive research. The world is assured on Vatican authority that the old explanation of intellectual and moral neuroses is the right one; that "demoniacal possession" is quite sufficient to account for the phenomena of epilepsy and epileptoid explosion; and that all attempts to investigate them on the "natural history method," as propounded and practised by HIPPOCRATES, are as useless as they are impious.

Professor LOMBROSO and his colleagues will hold themselves excused, we imagine, from regarding this denunciation of their work as amounting to more than a useful advertisement, and will be much less solicitous to notice it than to reply to such critics as Dr. MAUDSLEY and others at the last Medico-Psychological Congress. If for a moment they could be brought to consider this "decretum" of the Roman Church against them, it would be only to remind the world of the fact that similar denunciations of the modern spirit and its works have proceeded from the same quarter and been either abandoned or tacitly revoked. Between sixty and seventy years ago, for example, Pope GREGORY XVI. denounced railways as inventions of the evil one, and yet before the death of his Holiness he had to connive at their introduction into the most Catholic kingdom of the Two Sicilies, while in the next Pontificate the Eternal City saw itself connected with the seaboard and the rest of Italy by the same anathematised medium. It was Pope GREGORY, too, that fulminated against the newspaper press as another invention of the Prince of Darkness, and yet under his successor, PIO NONO, the daily and weekly journals were adopted and subsidised by the Vatican itself as the most powerful means of vindicating the apostolic cause. These are facts—facts, moreover, which justify the observation that the Roman Catholic Church in its attitude towards science seems departing from that principal which MACAULAY makes the determining cause of its vitality and its diffusion—to wit, the recognition and absorption, not the ignoring, still less the rejection, of all the forces that make for popular control. Since the revival of letters, and still more since the Reformation, the Vatican has been represented in nearly every walk of science, and from Father BOSCOVICH down to Father SECCHI and Father DENZA, whose deaths are comparatively recent, it has helped to widen and deepen the main stream of the world's knowledge by brilliant achievements in inductive research. Why should it make physiology or anthropology an exception to other sciences? Why denounce the application of these to the investigation of social phenomena before their votaries have properly argued out their cases or even made themselves adequately heard? Is it not "on the cards" that, just as the railway and the newspaper have not only lived down

Vatican censure but have been pressed into Vatican service, the same reversal of attitude may be witnessed towards medical investigation and even criminal anthropology? The Roman Church contains men of science able to sympathise with every honest attempt to solve nature's problems and to view the "Index Expurgatorius" rather with the eyes of BENEDICT the Fourteenth than with those of some of his less enlightened successors.

IT is now universally recognised that—to use the language of the Lancashire and Cheshire Branch of the British Medical Association—"it is expedient that lying-in women and newly-born infants be protected from the practice of midwifery-nursing by ignorant and untrained persons," and as we have already pointed out there is an almost equally general agreement as to the necessity for bringing all practice by women—not being qualified medical practitioners—among lying-in women, whether as midwives or midwifery-nurses, under some regulation to be prescribed by law. Even Dr. RENTOUL and his followers, as representing the extreme opponents of registration, "are anxious to improve the education of midwifery-nurses and, if need be, to support a practical scheme for their local registration; they do not object to the registration of midwives provided these act as midwifery-nurses *only* under the *immediate* supervision of medical practitioners and are registered as midwifery-nurses only; nor do they object to such proposed legislation as would protect any of the present privileges of *existing* midwives." We may, we hope, consider that the basis of a practical measure has been laid in the agreement expressed by all parties to this discussion. All would seem to be agreed on the following points—that lying-in women and children must be "protected," that the persons whose practice is to be brought under regulation shall be restricted to natural labour, and that any recognition of them shall be such as to make clear that they are in no sense medical practitioners and must assume no medical title. The Midwives Bill, which is practically disposed of for this session, in Clause 12, sub-clause 5, dealing with removal from the Register, enacts that "for the purposes of this section professional misconduct shall, in addition to any other form of misconduct, include any omission to send for a medical practitioner where the case is not one of natural labour." When there is so much agreement all round the natural course seems to be for the different parties to the discussion to come together so as to put down in practical terms what all agree to. To facilitate this, it is well to be explicit as to points which are still the subject of difference. Our object to-day is to note two or three of these. Let us note one between Dr. RENTOUL and the members of the Lancashire and Cheshire Branch. Dr. RENTOUL in his manifesto requires that the midwifery nurses shall act only under the immediate supervision of medical practitioners. The Lancashire and Cheshire Branch of the British Medical Association, however, "are unanimously of opinion that the proposition that it be made compulsory for every woman to have a registered medical practitioner in attendance at confinement, or that no person other than a registered medical practitioner, or a person acting under the direct or personal supervision of such be allowed to attend any case of midwifery, is, however desirable, impracticable." There is, probably, less difference between these views than appears. At any rate, it is obvious that the personal presence of a medical man—overlooking a midwife—at every case is impracticable. If a lying-in woman could afford a double service the need for this legislation would cease. We must be content with a medical practitioner *in reserve*, acting under the proposed Midwives Board, and, perhaps, all things considered, the district medical officer would be the best referee. This is a detail on which there should be no difficulty in coming to an agreement.

There remain two or three other points of prime importance on which there is more difference of opinion. They should be adjusted with a little discussion, but they need more consideration than—even after twenty years—they seem to have received. They have reference to the authorities by which the contemplated Act is to be administered. All are agreed that the chief work to be done shall be done by a board created for the purpose—the Midwives Board. But with regard to the composition of the board there are wide diversities of opinion. The Midwives Bill of the present year gives a board of eighteen—three representatives of the College of Physicians, three of the College of Surgeons, three of the Apothecaries' Society, three of the Incorporated Midwives' Institute, and three appointed by the Lord President of the Council, of whom one at least shall be a woman. The Bill of the Parliamentary Bills Committee of the British Medical Association provides a board consisting of Registered Medical Practitioners to be appointed by the General Medical Council. The Bill of the Lancashire and Cheshire Branch has a Midwives Board of twenty-seven selected from registered medical practitioners to do duty in the following districts:—London and Southern Counties, seven representatives; Birmingham and Midland and Eastern Counties, five representatives; Lancashire, Cheshire, Westmoreland, and Cumberland six representatives; Northumberland, Durham, and Yorkshire, six representatives; and Wales and Counties of West of England, six representatives. Other questions of great importance are—who is to keep the Register? and shall it be national or local? The Midwives Bill assigns the duty to the Midwives Board. But both the Parliamentary Bills Committee and the Lancashire and Cheshire Branch of the British Medical Association require the General Medical Council to keep and publish the Register. According to the former no midwifery nurse is to commence practice in a district without first reporting herself to the medical officer of health. Dr. W. FRASER in his valuable contributions to the settlement of this question in our columns advises local registration, as distinguished from national, on the score of being more proportionate to the humble expenses of training and more effective. There is an equal diversity of views as to the power of removing from the Register for disciplinary purposes. The Midwives Bill assigns this duty to the Midwives Board, but assigns the power of restoration to the Board or to the Privy Council. The Parliamentary Bills Committee gives the power of removing from, and restoring to, the Register to the General Medical Council. The Lancashire and Cheshire Branch proposes that a committee of the Midwives Board shall investigate charges of

misconduct and may remove from the Register. Dr. FRASER leaves questions of discipline to the medical officer of health for the town or district, with appeal to the medical officer of health for the county.

A curious difference in the Bills is in the way in which the action of the Privy Council is imported into the administration of the proposed Act. There is an unwise obtrusion of this august body into the Midwives Bill. It has three nominations to the Midwives Board; together with the General Medical Council it has to take steps to secure the first Midwives Board; it fixes a date for the establishment of the Midwives Register with a notice in the *London Gazette;* it must confirm all rules framed by the Midwives Board and approved by the General Medical Council; if the General Medical Council fails it must invite some other suitable body to act or proceed to act itself; and it may direct the restoration of a name to the Midwives Register. In the respective Bills of the Parliamentary Bills Committee and the Lancashire and Cheshire Branch the Privy Council is required to confirm the rules approved by the Board and approved by the General Medical Council. Dr. FRASER proposes that the Local Government Board shall issue directions annually to be observed by midwives as to sanitary conditions in nursing a patient. We have no space left to discuss these various points. But we suggest to all who are in earnest in seeking to protect lying-in women and who do not wish for another twenty years' delay to simplify their suggestions as much as possible. The machinery of any practical measure should be local, inexpensive, and simple. To import the Privy Council into the administration seems to us quite superfluous and hindering Even the General Medical Council is not needed, save in the initiation of the administration to sanction rules. It has repeatedly expressed its willingness to assist so far but no further and has indicated its belief in a local rather than a national administration. The examinations should as far as possible be local and the registers should be local. The realisation of this legislation will be brought about soon or late, according to whether it is kept proportionate to the limited function of the parties to be trained and the limited means of those whose lives are to be saved. Looked at from this side of the question the proposals of Dr. FRASER seem very valuable, and Dr. LOVELL DRAGE, who is opposed to most Midwives Bills, sees in them a solution of the difficulties. Dr. FRASER will do service by still further developing his views as to the machinery for localising examinations and registration. The General Medical Council may be a fit body to govern the medical profession, and yet be unfit for such duties as are involved in the administration of a Midwives Act.

THE DUKE AND DUCHESS OF FIFE AT BRIGHTON.—Their Royal Highnesses the Duke and Duchess of Fife last week visited Brighton, where the Duchess laid the foundation stone of a new wing for the accommodation of the nursing staff of the Brighton Children's Hospital. Twelve bedrooms, with bathrooms, &c., will be provided, and the cost, including furnishing, is put at £1500, of which from £1100 to £1200 is already collected, besides purses to the amount of £179 received by Her Royal Highness.

Annotations.

"Ne quid nimis."

THE LIVERPOOL LADIES' CHARITY AND LYING-IN HOSPITAL.

THE dispute between the board of management and the late medical staff of the Liverpool Ladies' Charity and Lying-in Hospital has been alluded to in several letters by our Liverpool correspondent; but, as the subject is one of importance to the profession in general, we have no hesitation in further referring to it. The charity consists of a hospital containing fifteen beds, attached to which is a staff of three honorary medical officers, a matron-midwife residing in the building, and a staff of nurses. There is also an out-door department for women who wish to be confined in their own homes, much on the same principle as the Royal Maternity Charity of London. The city is mapped out into districts, each with its honorary medical officer and midwives; the former is sent for in cases involving difficulty. At the hospital the board of management objected to the normal cases coming under the supervision of the medical officer on duty, and insisted on the matron midwife admitting all patients and having charge of them during their confinements unless she detected anything abnormal, in which case she had orders to summon the medical officer on duty. The late staff objected to this practice, and demanded that all patients in the hospital should come under their supervision; and further that the matron-midwife should act under their direction, similarly to a house surgeon obeying the orders of his chief. A meeting of the subscribers was summoned to place before them the matter in dispute, with the result that a resolution was carried apparently giving charge of all patients to the medical staff, but in reality confirming the attitude of the board of management towards the medical staff. The staff then came to the conclusion that, as their proper position in the hospital was denied to them, they could not retain office any longer and forthwith resigned in a body. Consequently on their resignation the board of management advertised for two honorary hospital medical officers and for several district medical officers to fill the vacant posts; the 18th inst. was fixed as the latest date for receiving applications from intending candidates. The result must have been as humiliating to the board of management as it is satisfactory and creditable to the local members of the profession. No application was forthcoming. Not one member of the profession was found to be desirous of being connected with an institution which showed so little regard for the feelings of its medical staff. Our correspondent alluded to a meeting of the local members of the profession which took place on the 11th inst., to protest against and to denounce the unreasonable conduct of the managers of this charity towards its medical staff. The meeting, at which 215 gentlemen and two ladies were present, was unanimous, and carried two resolutions, the latter of which advised the local members of the profession to have nothing to do with a charity which was capable of acting thus to its medical staff. Mr. Mitchell Banks in an able speech said that he trusted that no medical man would demean himself by applying for a post of such questionable dignity. The result of this meeting has been all that was to be desired, and an object-lesson has certainly been given to the board. We will not dwell on the abuse which has been poured on the heads of the staff of the hospital and on the profession in general in letters addressed to the local papers; this is a subject beneath notice. It is amusing, however, to find the ignorance displayed by some of the

writers in their charges of inhumanity against the "doctors." One gentleman in alluding to the use of the pelvimeter by a member of the staff declared that it was a barbarous practice. We wonder if he is under the impression that it is used for vivisecting purposes. All the troubles at this charity might have been averted if the medical staff had been represented on the board of management. We trust that in future the members of this board will confine themselves to the ordinary duties of hospital management, and cease to encroach on matters which they do not understand.

THE BIRTHDAY HONOURS

WHILE sincerely congratulating the members of the medical services—for the name of no civilian member of the medical profession occurs in the list—who are recipients of any honours and distinctions, we can only express our regretful surprise at the extremely limited number of the members of our profession who have been deemed worthy of being included in the brithday list. Brigade-Surgeon-Lieutenant-Colonel Alfred Swaine Lethbridge is promoted to be a Knight Commander of the Order of the Star of India, Brigade-Surgeon-Lieutenant-Colonel Benjamin Franklin to be a Companion of the Order of the Indian Empire, Dr. J. Rogers Pasha to be a Companion of the Order of St. Michael and St. George, and Surgeon-Major-General Charles Dodgson Madden to be a Companion of the Order of the Bath.

MEDICAL CERTIFICATES AND BOARD SCHOOLS.

WE have frequently discussed the conduct of the London School Board with regard to medical certificates, and we have now to comment upon the same subject as it appears at Macclesfield. At the recent monthly meeting of the Macclesfield School Board the Rev. Father Robinson, who was in the chair, proposed the following resolution:—

"That, with a view to secure the more regular attendance of children at school on the one hand, and to avoid unnecessary prosecution of parents on the other, a medical officer be appointed, whose duty it shall be to examine all children sent to him by the clerk and to report as to their fitness or otherwise to attend school; and that the clerk keep a counterfoil record of children so sent; and that the medical officer be paid half-yearly at the rate of 1*s.* for each child so sent."

In the course of his remarks he is reported by the *Macclesfield Courier* as saying "that by appointing a medical officer they would be taking upon themselves the onus of paying for what they had a right to do by law." We must inform Father Robinson that, if he is rightly reported, and if he means that a School Board has a right to demand a medical certificate, he is wrong. A School Board has no more right to demand a medical certificate than it has to demand a certificate of baptism. Father Robinson's resolution is an attempt to grapple with a difficult question, but we do not quite see how it is going to work, and it is open to the same objection as the resolution of the London School Board. If the Board gets answers to its advertisement we suppose it will appoint a medical man, but we doubt if any will apply with the prospect of having to run all over Macclesfield and examine cases at 1*s.* a head. No parent would bring his child to the medical officer, for he would naturally think, "If he is too ill to go to school he is too ill to go to the medical man." Of course in many cases this reasoning would be wrong, but still it would certainly be used. All the old stories about incorrect certificates were brought up by Mr. Brown and Mr. Hammond. That certificates are often given by those who have no right to give them—e.g., herbalists, &c.—we can well believe, but that incorrect certificates are granted by qualified men we do not believe, except in a very few cases. We cannot see why the Board should not be satisfied that any medical man should sign certificates. In case of any doubt arising the School Board medical officer might be at liberty to examine into the case *in consultation* with the original giver of the certificate. We think that no general practitioner would object to this, for something analogous is constantly being done by insurance offices, &c. But the procedure of the London School Board, as it stands in the resolution of May 30th, 1895, is intolerable, and the Macclesfield board, by proposing to make the clerk the judge, is scarcely acting more wisely. The fee of 1*s.*, too, is absurd. However, we await the development of the scheme with interest and shall have more to say upon the matter.

THE "NEW STREET DANGER" AGAIN.

A SOMEWHAT alarming phenomenon manifested itself in Northumberland-avenue on Monday morning last. About ten o'clock dense volumes of black smoke were observed to be issuing from several culverts in the road extending for a considerable distance immediately in front of the Victoria and Métropole Hotels. The character of the smoke and its smell could leave little doubt as to what the origin of the subterranean fire could be. It was just that which might be expected on the burning in a confined space of the bituminous cement or gutta-percha used for electric lighting cables. For some cause or other the mains had become over-heated. Shortly after the occurrence the electric light at THE LANCET offices was found to be turned off—a fact which confirmed the view of electric mains being the source of the mischief. Luckily in this instance there did not appear to be any leakage of coal gas, otherwise the result might have been very serious. The fire, however, was soon subdued by the fire brigade pouring water down the culverts. The incident will of course be inquired into, and the proceedings should possess some interest in throwing, perhaps, some light on the question as to whether the electric mains *per se* could cause an explosion.

SHORTHAND FOR MEDICAL STUDENTS: PETITION TO THE GENERAL MEDICAL COUNCIL.

A PETITION signed by nearly two hundred members of the Society of Medical Phonographers, to which is appended the names of many prominent members of the medical profession, including Sir Joseph Lister, President of the Royal Society, Dr. Wilks President of the Royal College of Physicians of London, and Mr. Christopher Heath, President of the Royal College of Surgeons of England, has been presented to the General Medical Council and will, we presume, be considered at the approaching meeting of that body. The prayer of the petitioners is that shorthand should be an extra optional subject for the Preliminary Examination required by the General Medical Council, and in view of the great saving of time and labour and the facilities which a knowledge of shorthand gives to its possessor in recording clinical and scientific observations we have no doubt that the Council will carefully consider the prayer of the petitioners. The use of shorthand in education is becoming daily more and more recognised and especially so in the case of the learned professions. Its advantage to the legal profession is obvious and the clerical profession has been greatly indebted to it. As the petitioners state, the value of shorthand to staff officers of the army has lately been recognised in the Queen's regulations and has been made compulsory for Foreign Office *attachés*. In the medical profession its increasing use is reflected in the growth of the Society of Medical Phonographers, inaugurated a little more than a year ago, which has increased from sixty to two hundred and forty members, some of them with an experience of from thirty to forty years, and representing every branch of the profession. Provided a

knowledge of shorthand is acquired before the student commences his medical studies and also that he has learned the proper method of using it which he may do by the perusal of an excellent little book[1] written by Dr. Gowers and published by the Society of Medical Phonographers the embryo practitioner is armed with an instrument which should greatly assist him in his studies. Should, however, the General Medical Council recognise shorthand as an optional subject at the preliminary examination it would be wiser not to limit the system to Phonography, excellent though that system may be; indeed, arguments might be advanced against the official recognition of any one particular system. Phonography is perhaps one of the best for scientific work, but it is certainly not perfect from a practical point of view. To officially recognise one system would not be fair to the others.

COPPERED PEAS.

AN important decision was given last week on the greening and preserving of peas with copper. It appears that a conviction was obtained against a wholesale provision dealer in the Borough for selling preserved peas containing 3·16 grains of sulphate of copper, which the magistrate held to be an ingredient in sufficient quantity to be dangerous to health. There was some difficulty in giving judgment in the appeal as the opinions of authorities were greatly at variance on the question of the quantity that should be permitted. In the present case, however, it was considerably in excess of the limits which most authorities had laid down. We should like to see the use of copper salt for this purpose interdicted altogether or else only allowed when the vendor agrees to label in distinct and moderately large characters the tin or packet containing them to the following effect: "These peas are coppered." That some distinct legislation is wanted on this subject is evident from the statement that the annual consumption of these peas in England is estimated at 20,000,000 tins. Assuming, therefore, that each tin contained the quantity of sulphate of copper stated to be present in the sample in the present case this would amount to 9000 lb., or over 4 tons, of sulphate of copper taken with this form of food annually into the human system; and who shall say that this quantity of copper is so uniformly distributed that one consumer does not get more than a three-grain dose from time to time?

THE CRIMINALITY OF THE FRENCHWOMAN.

THE statistics of crime are in France, as in other countries, several years in arrears. It is not surprising, therefore, that those relating to the year 1893 should have been published only last week. Criminologists may be interested to know what part the Frenchwoman takes in offences against the established rules of civilised society. Of 4269 accused persons in 1893 3673 were males and 596 females—a proportion of 6 to 1. In other words, woman was responsible for 14 per cent. of the crimes committed, a diminution since the period comprised between the years 1871–76, when the percentage was 17. As might be expected, offences against persons predominate over those against property, being 19 per cent. in 1876–80, 18 per cent. in 1881–85, 21 per cent. in 1886–90, 20 per cent. in 1892, and 17 per cent. in 1893. Offences against property rights have progressively descended from 13 per cent. in 1876–80 and 12 per cent. in 1892 to 11 per cent. in 1893. Prosecutions for infanticide have likewise decreased in the following proportions: 1889, 210; 1890, 174; 1891, 148; 1892, 154; 1893, 132; the annual average for 1876–80 having been 207. We may conclude that the criminal instincts of our Gallic sisters are comparatively feeble, and that what appears to the justice-loving Briton as culpable indulgence on the part of French juries *vis-à-vis* of the erring woman, more especially in what our sentimental neighbours denominate *drames passionnels*, has not had the effect of encouraging the weaker sex in wrong-doing. Alphonse Karr has, in one of his books, cynically defined woman as *un être qui s'habille, babille, et se déshabille* (a being who dresses, chatters, and undresses). A short sojourn in this giddy city of pleasure will lead to a like conclusion in so far as a large proportion of Parisiennes is concerned. The absorption of their time in the above-named important occupations may, perhaps, account for the rarity of their appearance in criminal records and also for the predominance of male crime.

[1] The Use of Shorthand by the Student.

QUESTIONABLE TASTE.

THE Metropolitan Hospital Sunday Fund has issued a notice (which we publish elsewhere) expressing disapproval of street collections on Hospital Sunday, and we almost wish it were possible to withhold the benefits of the Fund from those hospitals who make Sunday hideous by organising street processions in aid of their respective charities. On Sunday last in a certain part of London there was a street procession organised in aid of a hospital which for the present shall be nameless, as we do not know whether the hospital authorities were responsible for it or whether the tradesmen who took part in it and thus secured a big advertisement for themselves were responsible. In addition to the usual bands and banners of friendly societies which accompany these processions there were tradesmen's carts, decorated with flowers and vegetables, the name of the owner of the vehicle being, of course, conspicuously visible. To this there can, perhaps, be no serious objection, though we question the taste of the proceeding; but the principal "attraction" was a man on what was supposed to be a sick bed, and attended by two nurses, one of whom, we understand, was a qualified nurse attached to a local mission and the other a person masquerading in a nurse's costume. Comment is needless.

THE POOR-LAW SCHOOLS COMMITTEE: SEVERE CRITICISM.

THE Poor-law Schools Committee and its report have not been permitted to go free in the matter of criticism—and criticism, moreover, of a severe character. The London and District Poor-law Officers' Association have recently held a meeting in London at which the report in question was handled by several of the members in no friendly manner. The principal speaker was Mr. H. D. Aslett, superintendent of the branch schools of the Kensington and Chelsea school district, and in a lengthy paper he traversed the assertions made in the report in many directions. Not alone with the substance of the document was he at variance, but he criticised the constitution of the Committee and the selection of witnesses as well as many of the statements of particular witnesses. The general tenor of his paper may be gathered from the terms of the resolution which he submitted to the meeting, and which ran:—

"That in the opinion of this association the report of the Committee on Poor-law Schools gives evidence of bias; too much has been made of individual cases of admitted failure, to the exclusion of thousands and thousands of satisfactory ones; the weakest condition of the weakest school is the measure with which all are meted; the description of the schools much more appertains to what they possibly were twenty or thirty years ago; and the report does not recognise the forward strides made in all the schools during the past ten years."

He felt that too much had been made of the alleged evils of aggregating children in schools, and pointed out that, whilst many schools were for comparatively small numbers of inmates, even the large schools were divisible into

three sections—boys, girls, and infants—having little in common. He regarded ophthalmia as potent for mischief in other places equally with Poor-law schools, and did not regard the disease as by any means a necessary corollary to the school system. With reference to the physical condition of the inmates of the schools, he looked upon the bad record as arising from a natural selection of the unfittest for these institutions. The degree of faith to be placed in the much-lauded boarding-out system seemed to him to be smaller than is generally felt to be the case, having in view the statistics placed before the Committee by those most favourable to it; and, in his opinion, the standard of excellence in matters educational is quite as high in Poor-law schools as in most of the elementary schools in the country. Others who spoke felt it to be hard that no more praise had been accorded to the painstaking work of the Poor-law guardians and officials to better the system as at present existing. The meeting at the end of this discussion unanimously passed the following resolution:—

"That in the opinion of this meeting of this association the report of the Poor-law schools is unsatisfactory, unjust, and unfair to metropolitan schools generally, which can show very satisfactory results, as an impartial inquiry must prove; and this meeting suggests to the National Council that some action shall be taken in the matter."

THE SURGICAL TREATMENT OF INTRACRANIAL TUMOURS.

IN a paper in the last number of the *American Journal of the Medical Sciences* Dr. Stieglitz, Dr. Gerster, and Dr. Lilienthal describe three cases in which operation was performed for intracranial tumour. In one case the patient recovered and did well for at least a year after operation; in the other two cases death followed operation. The first patient was a woman aged twenty-five, who, in October, 1891, while talking to her husband, suddenly felt the thumb and forefinger of her right hand twitch. The spasm gradually spread up the arm to the shoulder and face, leading to a general convulsion, with loss of consciousness. Several attacks similar in character followed, and in February, 1892, there was definite paresis of the right hand, which gradually became more marked in the course of the next few weeks. There was no headache, sickness, or optic neuritis, and anti-syphilitic treatment failed to influence the symptoms. It was concluded that a tumour was probably present in the left anterior central convolution near the junction of the middle and lower thirds. Operation was performed on June 25th, 1892, and a sub-cortical cystic tumour was found in the position indicated above and an ounce of straw-coloured fluid escaped. The cyst-wall was perfectly smooth, but it was considered inadvisable to attempt the removal of this. The patient made a good recovery and by the end of the following October she was able to write and sew, a marked difference from her condition before operation, when she had been unable to use the hand at all. In December, however—that is, six months after operation—she had a general epileptic seizure which began in the right arm, and she continued to have twitchings on the right side with subsequent weakness of the limbs on the affected side. No other symptoms were superadded until March, 1895, when she began to suffer from severe headache, and at this date, for the first time, the optic discs were found to be cloudy and slightly swollen. It was thought that there had been a recurrence, or rather an extension, of the growth in the cyst wall, and at the operation a small maroon-coloured mass was found towards the upper margin of the opening in the skull. This was found to be conical in shape, with the base at the surface and the apex deep in the brain substance. It was sarcomatous, and islets of growth were found in the surrounding brain substance. There was temporary interference with speech after the operation, but this soon passed off and power began to return in the paralysed limbs. A year after this second operation the condition of the patient was very satisfactory. There had been no recurrence of the severe seizures or even of the slight twitchings, and there had been considerable return of power in the paralysed arm, the thumb and index finger alone remaining powerless. Cutaneous sensibility is said to have been perfect, but there was considerable interference with the muscular sense in the hand. The second case was that of a Russian aged thirty-three, who came on account of loss of vision, and was found to have intense optic neuritis. There were also severe headache, staggering gait with tendency to fall to the right, slight weakness of the right side of the face, and some indefinite limitation of the movements of the right eye. Total deafness on the right side and partial reaction of degeneration in the facial muscles of the right side were moreover present. Trephining was done in the right occipital region as it was supposed the tumour was situated in the ventro-cephalic part of the right cerebellar lobe close to the internal auditory meatus. The intracranial pressure was found to be enormously increased and the tentorium was pressed up from below. The tumour could not be reached, and so enormous was the intracranial pressure that there was a large hernia cerebri which had to be removed. The wound subsequently became septic and the patient died a fortnight after the operation. At the necropsy a glio-sarcoma the size of a small apricot was found, involving the anterior half of the right cerebellar hemisphere and indenting the same side of the pons. The third case was that of another Russian fifty years of age who suffered from right-sided fits and subsequently from headache and disturbance of speech. There was also weakness of the right arm and right side of the face, but no optic neuritis until more than eight months after the first fit. Operation was carried out, but the patient succumbed to the shock and loss of blood. A large tumour was found in the left Rolandic area. These three cases furnish examples of the difficulties to be met with in dealing surgically with intracranial tumours. The last two show that trephining alone, even when the tumour is not removed, has certain dangers. Those arising from the enormously increased intracranial pressure and consequent protrusion of the cranial contents after trephining in the case of sub-tentorial tumours are strikingly illustrated in the second case.

LONDON DUST.

ONE of the unpleasant effects of the recent spell of dry weather in London has been the unusually large amount of dust that has been flying about. The irritation of the mucous membranes of the respiratory tract and conjunctivæ which it produces is no doubt responsible for many of the nasal and bronchial catarrhs which are apt to occur at this period of the year, especially in those who are predisposed to them, and, besides this simple irritative effect, a large amount of organic matter is naturally inhaled. Dust is chiefly made up of mineral particles to which is added a variable amount of organic matter arising from the decomposition of animal and vegetable refuse, and we may feel quite sure that the dust of overcrowded London contains a large share of the latter. It is impossible to estimate with any degree of exactitude what detrimental effect on the general health a period of dusty weather may have, but we are forced to think it must have some when we look at the disastrous results to health which continuous inhalation of particles causes. So in a minor degree is the dust of the streets injurious, not perhaps to any practical amount to those who are healthy, but to those already suffering from pulmonary complaints it must necessarily be

harmful from the irritation and coughing which its inhalation causes. It is possible that a time will come when most of the traffic of the streets will be carried on by means of autocars and bicycles, in which case the decrease in the number of horses would be accompanied by a decrease in the amount of dust and especially of the organic matter which now so freely enters into its composition.

THE ILLNESS OF SIR J. RUSSELL REYNOLDS.

WE deeply regret to be unable to speak hopefully of Sir J. Russell Reynolds's condition. The complete prostration still remains, and although no new symptoms have appeared his state is one that still gives rise to the deepest anxiety. The breathing has been easier since the appearance of our last report, but the fact that during the week that has elapsed no improvement of the terrible weakness has taken place prevents us from speaking to our readers in any optimistic manner. We may hope for the best, but it would be wrong not to be prepared for the worst. By the command of the Queen Sir James Reid has visited Grosvenor-street several times, and the condition of the patient is daily reported to Her Majesty. The numerous personal inquiries and messages of deep sympathy that have been received by his family from sources far and wide bear touching testimony to the affection and esteem in which Sir John Russell Reynolds is held by all who know him.

RECURRENT PARALYSIS OF THE THIRD NERVE.

IN a recent number of the *Wiener Klinische Wochenschrift* Dr. Karplus has a paper on this subject, in which he relates two interesting examples of it, in one of which examination post mortem was possible. An abstract of this paper appears in the last number of the *Neurologisches Centralblatt*. The first case was that of a woman, thirty-seven years of age, without any history of nervous disease in her family. She had suffered from her eighth year from attacks which she herself associated with a severe injury. The attacks consisted in sudden and severe right-sided headaches which came on without warning. A few years after their commencement ptosis appeared and the duration of the whole attack extended over five or six days. The attacks became more and more frequent, and at the time at which she was seen they came on every three months. For the previous six months also recovery from the paralysis of the third nerve had not been complete. During three pregnancies the patient had never had an attack. Examination during an attack showed complete paralysis of all branches of the third nerve. On the temporal bone just under the zygoma on the right side there was a point tender to pressure. Sensibility in the region of the second and third branches of the trigeminal nerve was otherwise normal, while during the attack hypo-æsthesia and hypo-algesia were present in the region of distribution of the frontal branch of the fifth nerve. The second patient was a man aged forty-three, who was admitted to the hospital on account of progressive paralysis. The history was that at the age of six months he had had an attack of sickness, with subsequent ptosis, which passed off in a few days. After that until he was twenty he had similar attacks every two or three weeks, accompanied with severe right-sided headache. After his twentieth year recovery from the ptosis had been incomplete and he had begun to squint. On admission he had a dilated, inactive pupil on the right side, divergent strabismus of this eye, and ptosis. He had, under observation, every three or four weeks attacks of complete paralysis of the third nerve with severe headache and sickness. The fundi were normal. The patient died after a succession of epileptiform attacks. At the necropsy a tumour the size of half a pea was found in the third nerve and connected with the dura mater. This was found to be a neuro-fibroma which involved the third nerve on all sides. The fibres of the nerve were degenerated, but the cells of the nucleus were unaltered, although the supporting tissue was less abundant on the right side than the left. Dr. Karplus regards the tumour as having been probably congenital, and by reason of its presence and pressure to have led to degeneration of the nerve fibres. From his observations he is inclined to regard these cases of recurrent palsy of the third nerve as the result of changes at the base of the brain. The affection of the branches of the trigeminus on such a hypothesis is intelligible, and he does not accept the view that circulatory disturbance is an efficient cause of the conditions.

THE FOUNDATION OF A JENNER MEMORIAL MEDAL.

IN another column will be found a letter signed by the officers of the Epidemiological Society in which it is stated that the Society proposes to found a medal in honour of Jenner, to be awarded to persons who shall have added to the knowledge of epidemiology and preventive medicine. We note this intention with much pleasure—in the first place because we are satisfied that the profession will be glad of this opportunity of founding a memorial to Jenner on the centenary of his great discovery, and, secondly, because the Epidemiological Society is peculiarly fitted on account of its association with the subject of vaccination to undertake the task.

ANALYSES OF DIPHTHERIA ANTITOXIN.

THE weekly bulletin of the State Board of Health of Massachusetts for the week ended April 4th contains some valuable results as to the quantitative analysis of the diphtheria antitoxins offered for sale in that State. In the case of the serum of Behring (No. 2), of that of Parke, Davis, and Co., and of Mulford and Co. the antitoxin was up to the advertised strength. In the case, however, of the serum of the Pasteur Institute of Paris (Roux) it was found that the ten cubic centimetres of serum which were tested contained a total of 500 antitoxic units instead of 600 units; while in the case of Gibier's diphtheria antitoxin, New York, it was discovered that a bottle professing to contain 2500 units contained from 625 to 750 units only. Results such as these are obviously of considerable importance and are calculated to very materially vitiate statistics relative to dosage.

AN UNQUALIFIED DRUGGIST.

SOME remarkable disclosures with reference to a druggist's business were made in recent legal proceedings. The defendant—a druggist—was sued for £25, which was the balance of a sum for which he had bought the business. The defendant did not deny that the sum was owing, but he pleaded that in selling the business the plaintiff had misrepresented things to him, and on that score he put in a counter claim for £50. The evidence went to show that the plaintiff was an unqualified druggist, and it was further alleged that the large profits he had made were due to an extensive sale to females of a mixture for illegal purposes and that the defendant, as he did not continue to sell this mixture, found the profits far below what he had been led to expect. In the end, after conflicting evidence, the plaintiff got his £25 and the defendant was awarded the same sum on account of the fraudulent misrepresentation, but without costs to either side. This case is one of those which show that in all probability a large trade is often done in these illegal sales of medicines, and in this case the vendor in some measure guarded himself by not allowing his name to appear on the bottles. The composition of the mixture was not given, but it was said to be a very

dangerous one and a combination of drugs which no qualified man would use. The greatest vigilance is necessary to control the sale of medicines for illegal purposes, and exemplary punishments should be passed on those who are convicted.

THE GENERAL MEDICAL COUNCIL.

THE Queen has nominated Mr. Thomas Pridgin Teale, M.B. Oxon., F.R.C.S. Eng., to be again, for the term of five years from the 23rd inst., a member of the General Council of Medical Education and Registration of the United Kingdom. This is Mr. Teale's fifth period of service. His interest in education, medical and otherwise, is well known. At the last meeting of the Council he gave notice of a resolution on the subject of excessive examinations which is sure to raise some very important questions.

THE MEDICAL SOCIETY'S CONVERSAZIONE.

THE annual conversazione of the Medical Society of London took place on May 13th, when a large and distinguished gathering of Fellows and visitors assembled to hear the annual oration, which was delivered by Dr. W. H. Allchin. The subject chosen was "The Breaking Strain," and the address will be found in full in another part of our present issue. The attention with which its delivery was received and the enthusiasm with which the after-vote of thanks was accorded to the orator could not fail to demonstrate to Dr. Allchin how much his venture into the fields of the transcendental had been appreciated. The presidential reception which was held afterwards was largely attended and the newly decorated and attractive rooms of the society were crowded until a late hour.

RECENT PAUPER STATISTICS.

THE monthly comparative statements of pauperism issued by the Local Government Board have now for some time been so unsatisfactory that it is pleasing to have to record of the latest—in respect of February last—that some material improvement is manifest. Having regard to the whole of England and Wales, as divided by the Registrar-General into eleven divisions, it is satisfactory to note that with a single exception (the north midland group of counties, and that only in respect of one week) there was in February last, as compared with 1895, a decrease in pauperism in every division. Not alone so, but in London the improvement ranged from 18·9 to 28·2 per cent. in the several weeks of the month. In the country as a whole the decreases were 7·1 per cent. in the first week, and in the remaining weeks 10·8, 12·5, and 10·7 respectively. It may be that these data are more satisfactory on paper than in actual fact, inasmuch as February of the present year was free from the heavy frost which prevailed in that month in 1895. But none the less the returns are far from displeasing in the face of previous statements.

THE THYROID TREATMENT OF MYXŒDEMA AND CRETINISM.

THE efficacy of this mode of treatment now stands in need of no proof. So many illustrations have been published showing at a glance the condition of the same patient before and after administration of thyroid extract that the subject is in some danger of becoming stale and tiresome. But there are many clinical observations which can be made on patients during the early period of treatment which are of interest and importance. In the last volume of the Edinburgh Hospital Reports there is a very interesting paper by Dr. Byrom Bramwell which contains his observations on twenty-three cases. Dr. Bramwell has had experience of all the forms of administration, subcutaneous injection, the raw gland itself, the fluid extract, and the dried extract. He prefers the latter and confirms the statement of others that its activity does not appear to be impaired by keeping. An interesting clinical observation is that patients suffering from myxœdema and sporadic cretinism seem to be much more susceptible to the action of thyroid extract than those suffering from some skin diseases. "In most cases of myxœdema unpleasant symptoms and acute thyroidism are apt to be produced if the dose exceeds four tabloids daily (quarter of sheep's thyroid gland), but in several cases of psoriasis and ichthyosis I have given twenty, thirty, forty, and in one case even seventy-four tabloids (equal to one, two or even five average sheep's thyroids) per diem." In several cases there was an increase of mucus and uric acid in the urine when treatment was commenced. In one case this was extremely marked, the deposit of mucus in the specimen-glass looking like a large coagulum. Dr. Bramwell calls attention to the great differences in susceptibility met with in different people, and urges the necessity of caution and of giving small doses at the commencement of treatment. The danger of syncope is referred to. Death has occurred from this cause in a case in which the myxœdema was rapidly subsiding, and it is recommended that when the thyroid extract is very rapid in its effects cardiac tonics and stimulants should be given at the same time. The paper is written in Dr. Byrom Bramwell's usual clear style, and, as in all his papers, the illustrations are both useful and truthful.

THE LANCET AND THE HYDERABAD COMMISSIONS ON CHLOROFORM.

WE are pleased to be able to announce that we have reprinted in book form the Report of THE LANCET Commission appointed to investigate the subject of the Administration of Chloroform and other Anæsthetics from a Clinical Standpoint, together with the Reports of the First and Second Hyderabad Chloroform Commissions. The volume consists of nearly two hundred pages. In reproducing the Reports some slight changes have been made in the text of the introduction and elsewhere, these having been necessitated by the character of the original Report, which, as it appeared serially in our columns, needed textual reconstruction to render it consecutive; and a full description of the Manometer Experiments has (by the kind permission of the Nizam and the Government of Hyderabad) been added. We venture to hope that the work will prove useful to the profession as a record both of experimental investigations and of clinical research with regard to a subject of the highest importance to mankind. Further particulars concerning the publication will be found in our advertisement columns.

THE MEDICAL OFFICER OF HEALTH OF THE WEST RIDING OF YORKSHIRE.

THE West Riding County Council last week appointed as their medical officer of health Dr. James Robert Kaye, a gentleman of large experience in sanitary administration who has for upwards of six years been medical officer of health of Huddersfield and medical superintendent of the infectious hospitals of that populous borough. He has for some years displayed both zeal and ability in directing public attention in his district to the necessity of sanitary improvements and in demonstrating the advantages—moral, physical, and material—which result from an intelligent and consistent observance of the laws of hygiene. Such persistent but judicious advocacy of a high standard of sanitary efficiency is a praiseworthy characteristic of a public official and does much to counteract the prevalent apathy of local authorities. Dr. Kaye is a native of Perthshire and studied medicine in St. Andrews and Glasgow. In addition to his medical degrees obtained at Glasgow University in

1880 he holds the Diploma of Public Health of Cambridge University and is a Fellow of the Chemical Society of London.

ONE OF THE LAST OF THE CHARTIST PRISONERS.

THE Rev. Arthur O'Neill, who died at Birmingham on May 14th, was born at Chelmsford in 1819, and in 1835 commenced the study of medicine in Glasgow University, but soon abandoned medicine for divinity. He also joined the Chartist movement, and in 1842 was charged with sedition and imprisoned in Stafford Gaol for nearly twelve months. He was for more than forty years pastor of a Baptist chapel in Birmingham. There is probably now only one survivor of the Chartist prisoners.

THE Council of the Hospital Sunday Fund ask us to state that they do not give their sanction to, or approve of, boxes being carried about the streets soliciting donations in aid of this Fund. The proper places for making collections are the several places of public worship, to which payments by those unable to attend may be sent. Payments may also be made directly to the Lord Mayor, who is the treasurer of the Fund, at the Mansion House. The collection will take place this year on Sunday, June 14th.

THE committee of the Howard Association have adopted a resolution to the effect that the clauses in the Education Bill concerning pauper children do not contain sufficient safeguards against the abuse of the boarding-out system. We earnestly hope that if the clause in question is as inadequate as the resolution of the Howard Association seems to imply measures will be taken in committee to meet the deficiency.

WE have received a copy of a leaflet issued by a body called the Church Anti-vivisection League. It accuses the Clergy of subsidising vivisection and of alienating the laity. It also begs the clergy not to give any offertory to a hospital that "has a vivisectional laboratory attached." We hope to return to this subject next week.

THE Colonial Office has been informed by telegram from the Governor of Hong-Kong that seventy fresh cases of bubonic plague occurred in the colony in the week ending May 19th, and that the number of deaths from the plague in the same period was ninety-one.

THE QUEEN has been pleased to sanction the following appointments to the Order of the Hospital of St. John of Jerusalem in England. To be Knights of Grace: Sir Wm. MacCormac, F.R.C.S. Eng., and Mr. Samuel Osborn, F.R.C.S. Eng.

THE EMPEROR FRANCIS JOSEPH has conferred the honorary degree of Doctor of Medicine on Sir Joseph Lister, President of the Royal Society, on the occasion of the celebration of the Hungarian Millennium.

MADAME ADELINA PATTI has arranged to give another grand morning concert at Swansea in aid of the Swansea Hospital and the poor of the district round Craig-y-Nos. The date fixed is Aug. 6th.

THE Sanitary Institute have accepted an invitation from the city and county of Newcastle-upon-Tyne to hold a sanitary congress and health exhibition in that city in the autumn of this year.

THE festival dinner at the Imperial Institute on June 10th in aid of the re-endowment of Guy's Hospital, at which the Prince of Wales is to preside, will be followed by a reception.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XX.

The First Public Meeting of Members of the Royal College of Surgeons of England.—Mr. Lawrence's Speech from the Chair.—The Condemnatory Resolutions.—Wakley's Amendment.—Successful Oratory.

ON Saturday, Feb. 18th, 1826, the first public meeting of Members of the Royal College of Surgeons of England was held at the Freemasons' Tavern. For the first twenty years following the granting of the Charter there had been open dissatisfaction amongst the Members, who, be it remembered, comprised the flower of the general practitioners of England. Until 1815 it was not necessary for a medical man to hold any qualifications whatever. No government licence, no diploma from a state-supported or state-recognised body was necessary, and, *a fortiori*, no university degree. Therefore a large proportion of the medical men in the country were what nowadays would be termed "unqualified." They possessed qualifications to practise, certainly—for example, they had generally served several years of apprenticeship to men grown grey in the pursuit of the healing art, and they were mostly sound obstetricians, expert prescribers, and accurate dispensers; but of all standing derived from the successful endurance of the tests of examination they were guiltless. This was the plight of many of the English practitioners before 1815; and even after that date, inasmuch as the Apothecaries Act was not a retrospective one, there were as many unqualified as qualified practitioners in the country. But those who were qualified had generally received their diploma from the Royal College of Surgeons of England and represented the flower of their order—the men who had gone through a recognised training at a general hospital and had satisfied independent examiners that they had made good use of their time while walking the wards.

It must be remembered that these men were in many cases actually the same individuals who had prevented the old Corporation from obtaining at the hands of Parliament a legalisation of its Acts and a consequent re-establishment by their well-timed request to Lord Thurlow to come to their assistance. It was the outcome of their decided and united action that the House of Lords had been put upon its guard against the schemes of a few interested members of the Court of Assistants and had in 1797 refused to pass a bill sanctioning the re-constitution of the old Barber-Surgeon Company while all the abuses that had crept into it during its centuries of somewhat precarious and ill-established existence made an integral part and an important parcel of its programme for a new life. These rightly recalcitrant Members had observed with pleasure the dissection by the great Lord Thurlow of the plans of their would-be masters and the consequent rejection of the same by the country. When, therefore, the Court of Assistants received three years later from King George III. a royal charter giving them in addition to a dignified position all the unwarrantable rights for themselves that they had previously unsuccessfully demanded from Parliament, the wronged Members knew all the arguments against the granting of the charter by heart. Yet although they were disaffected,

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., and XIX. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, and 16th respectively.

and rightly, they made no common cause. Their leaders, who were their opponents, had received royal recognition and the fight seemed over. If there had been an outspoken and liberal medical paper in 1800 the Council and officers of the new Royal College would not have enjoyed the peaceful time that they did, but the help that could have been lent to the cause of justice by a strong editor was not then forthcoming. The only medical paper existent at the time speaking with any sort of authority was Dr. Roderick Macleod's decent but somewhat inept monthly publication *The Medical and Physical Journal*, and the proclivities of this journal were strongly aristocratic. So that Saturday, Feb. 18th, 1826, was an important day for the reforming spirits of the College, for it was on that day that the first organised step was taken by the Members against their leaders.

Mr. William Lawrence was in the chair on the occasion and was supported by Mr. Tyrrell of St. Thomas's Hospital, whose close relationship with Sir Astley Cooper did not prevent him from realising which side was right. There were 1200 persons present, but a certain proportion, probably a quarter, of these were not Members of the College, but only individuals of the general public interested in one or other side of a quarrel the merits of which had been widely discussed owing to Wakley's direct and uncompromising methods of comment in THE LANCET.

Mr. Lawrence (to whom a more lengthened reference will soon be made) in an eloquent opening speech constituted himself the mouthpiece of the aggrieved Members. All the points that had been insisted upon by Wakley and Mr. James Wardrop—under the pseudonym of "Brutus"—in THE LANCET were introduced into Mr. Lawrence's speech He dwelt upon the cruel and ridiculous disabilities of the Members in almost the words that were used in THE LANCET and picked to pieces in the most laughable manner the by-law precluding all but a few teachers in London, Dublin, and three Scotch towns from giving certificates of attendance upon scientific lectures. Its obvious grammatical frailty came in for notice no less than its cruelty to the students and its evidences of greed. Mr. Lawrence, fastening upon the words "to promote sound chirurgical knowledge,"[2] said it would seem that sound knowledge was the sort acquired in the winter, when the hospital lecturers were delivering their courses, while unsound knowledge was liable to be imparted in the summer, when only the excommunicated schools of the Graingers and Brookes were able to give the student the assistance and facilities for practical work that he required. After a detailed comparison of the merits of the hospital surgeon with those of the men who were now prevented from officially teaching, in the course of which he incidentally mentioned that under the College's present restrictive edict the famous school of William Hunter could not have existed, Mr. Lawrence went on to point out that the privilege of recognition must have been conceded to Scotland in some mockery, for it was well known that the schools of Aberdeen and Glasgow possessed no facilities for obtaining subjects, so that they could not give the instruction that the college had licensed them to impart. Edinburgh was different (gruesome forecast of the Burke and Hare tragedies!), but of Aberdeen and Glasgow, he said:—"We know, gentlemen, that at least anatomy cannot be studied in those places with any hope of success. We are all, I believe, aware, and no one is more ready than myself to acknowledge the great talents and acquirements of the gentlemen at the head of the anatomical schools in those places, but we are also aware that they are destitute of subjects, and without subjects, without the necessary means, no talent in the teacher, no acquisition of which he can boast, no peculiar fitness for the office of instruction in the past will avail the student in his study of anatomy." From this Mr. Lawrence diverged to touch upon a point of which telling use was afterwards made in THE LANCET, that the by-law excluded the great provincial teachers from giving recognised certificates. "Need I mention," said the speaker, "Hey of Leeds, Hodgson of Birmingham, Martineau, Dalrymple, and Cross of Norwich, and Barnes of Exeter, names that will amply warrant me in stating my conviction that the surgeons of provincial hospitals are as fully competent in the instruction of students as the favoured body who are attached to the London hospitals?"

Mr. Tyrrell then rose, and supplemented Mr. Lawrence's remarks by relating the history of the College and so making clear that the ill-treatment of the Members by the Council of the royal chartered organisation was a perpetuation of the abuses enacted under a corrupt Corporation. He then proposed the following resolution:—"That the public and the members of the surgical profession very justly complain that the science of surgery has not been advanced nor its practitioners benefited either by the late Corporation or the present Royal College of Surgeons in London." Mr. Wardrop seconded the resolution, which was carried unanimously.

A second resolution was put to the effect that the new by-laws contained provisions of the most oppressive character, injurious to the rights and property of individuals, and calculated to increase the expense and difficulty of acquiring surgical knowledge and to serve the private interests of the ten examiners by whom these regulations were made. This also was carried unanimously. Next followed two resolutions dealing with the exclusion by one of these by-laws of eminent anatomists, English, foreign, metropolitan, and provincial, from the pecuniary and honorary benefits belonging to the position of a recognised teacher of anatomy or surgery. These were carried unanimously.

A Mr. Lloyd then brought forward a resolution condemnatory of the inaction of the College with regard to the library and the museum. The former he declared to be useless because of its incompleteness and because such valuable books as it did contain were not accessible to the members, who had paid for them with their fees. The latter, he said, was not only closed to the Members at all seasons when it would be of any practical use to them, but Hunter's splendid collection still remained uncatalogued twenty-four years after Government had presented it to the College for the promotion of medical science. Not the least contentious part of Mr. Lloyd's speech was a reference to the fact that the catalogue would now be exceedingly difficult to construct owing to an individual having destroyed John Hunter's inestimable manuscripts. The meeting cried *Hear hear! Name! Shame!* and *Sir Everard Home!*[3] and the resolution was passed unanimously.

The complaint with regard to the compulsory entrance of Members by the back door was also put in the form of a resolution and carried unanimously.

A resolution was then brought forward by a Mr. Wigan that a committee should be appointed to present to the Council of the College a remonstrance grounded on the foregoing resolutions and requesting that the grievances therein complained of should be remedied.

So far, as will be seen, the meeting had been remarkably at one in sentiment and language, but this resolution led to an animated discussion. It brought Wakley to

[2] Chapter XIX. of this Biography, May 16th, 1896, p. 1376.

[3] It may be necessary to remind the reader of the significance of this interruption. Sir Everard Home, the first President of the Royal College of Surgeons who used that title, was John Hunter's pupil, brother-in-law, and literary executor. In discharge of his executorship he destroyed Hunter's manuscripts about three years before the date of this meeting. He was and is generally believed to have made use of the papers in scientific writings to which he appended his own name and to have burnt them for fear of detection.

the front, who, while owning that he had been the author of the advertisements summoning those interested in the reform of the College to meet at the Freemasons' Tavern, said that he did not find the results as drastic as he had hoped. A lot of condemnatory resolutions forwarded to the College would certainly constitute a serious remonstrance to that body, but he did not believe that any remonstrance would be of avail. He wished to petition Parliament to recommend his Majesty to grant a new Charter, and one which allowed each Member to have a voice in the election of those persons who were to regulate the proceedings of the College in the prosperity of which he must feel a personal as well as a national interest.

His lengthy speech was listened to with mixed feelings by his audience. He was prepared to go much further than most of them, and many of his expressions of contempt for the present rulers of the College did not meet with response. The general feeling was, in fact, favourable to civil remonstrance at the time that Wakley rose to speak on the other side. But, said Wakley, one might as well remonstrate with the Devil as with this constitutionally rotten concern—his own words. Nothing would come of such a measure, and he urged the meeting to petition Parliament at once to abrogate the Charter. He carried the bolder spirits with him, although he frightened many conscientiously anxious in the cause of reform but not believing that such root-and-branch remedy was necessary. His speech was an eloquent effort—outspoken, combative, and closely reasoned. He set the meeting right on the legal procedure necessary to obtain an abrogation of the Charter, and summed up, with striking additions, those grievances endured by the Members, which had already been made the subject of unanimous resolutions. Gradually he carried his hearers with him. Dissentient cries grew less frequent and applause waxed more unrestrained. As he felt that he was winning he in his turn made concessions to the meeting, dropping his more contentious tone and appealing to their practical sense. He concluded by proposing a long amendment to Mr. Wigan's motion to the effect that a petition, founded on the resolutions already adopted should be immediately prepared and presented to the House of Commons praying for the appointment of a committee to inquire into the abuses thus revealed with a view to obtaining from the King a new Charter.

Mr. Lawrence, in putting the amendment to the meeting, said a few words in favour of the original motion, but Wakley had taken the sense of the assembly by storm and his views were endorsed by a large majority.

A committee of twenty persons was then appointed to prepare the petition to the House of Commons and the meeting adjourned.

(To be continued.)

THE PREVALENCE OF DIPHTHERIA IN CONNEXION WITH ELEMENTARY SCHOOLS.

DR. W. R. SMITH has recently presented to the London School Board an elaborate statistical report on the prevalence of diphtheria in London and elsewhere and its alleged connexion with the elementary schools. In the year 1894 the attention of the Board was forcibly drawn to the possible influence of aggregation in school on the spread of infection, by the publication of an important "memorandum" by the medical officer of health of the administrative county of London, which furnished evidence that school attendance since the year 1870 has been answerable for a *portion* of the increased prevalence of diphtheria that has been observed for some years past. Accordingly the School Board, by a resolution dated January, 1895, directed their medical adviser to report to them on the whole subject. Dr. Smith's report is divided into three sections. The first deals with the evidence as to local incidence of diphtheria in the past. The second with the diphtheria statistics available for London, and the third with Dr. Smith's personal investigations respecting 2000 cases of diphtheria occurring in 1895. Although the information contained in the first section is undoubtedly interesting in relation to the geographical distribution of diphtheria, it does not seem relevant to the present question; we shall therefore pass on to the second section, and endeavour to learn from it how far the evidence adduced by Dr. Smith proves his assertion that school influence plays but an unimportant part in the enormous increase of diphtheria during recent years in London. Before examining Dr. Smith's method of reasoning it may be useful to review for the benefit of those readers not conversant with the originals, the position which Mr. Shirley Murphy takes up in his memorandum, as well as in his presidential address to the Epidemiological Society. This position may be shortly summarised thus: The London mortality from diphtheria in 1871–80 was less than in 1861–70, but for some reason or other children from three to ten years of age shared less in the fall than did those under three or over ten years of age. If the London diphtheria mortality during 1891–93 be compared with that of former periods this special incidence is still more plainly marked upon children aged from three to ten years, these years being periods of exceptional diphtheria prevalence. Consequently if the rates prevailing in 1861–70 be compared with those of 1891–93 it appears that whereas in the later period the increase at all ages amounted to 196 per cent. and that among children under three and over ten years amounted to 173 per cent. and 53 per cent. respectively, the increase at ages from three to ten years amounted to as much as 309 per cent. There is therefore at the present time a greater tendency than there formerly was for children of from three to ten years of age to die from diphtheria, and close examination points to the year 1871, when the Education Act first became operative, as the year in which this increased prevalence first became conspicuous.

Dr. Smith in the course of a long argument sets himself to demolish Mr. Shirley Murphy's position. In the first place, he states that while the percentage of children attending elementary schools has increased from 25 per cent. in 1871 to 60 per cent. in 1893, the comparative death-rate at ages from three to ten years has remained throughout these years fairly constant. On examining Dr. Smith's Table 12, however, it is impossible to agree with this latter statement; for if the years be arranged in either decennial or quinquennial groups it will be found that with increase of school attendance there has been a gradual increase of comparative diphtheria mortality at the school ages. Again, Dr. Smith, commenting on the incidence of diphtheria on the several ages, admits that the fact that the decline during 1871 to 1880 was least at "school age" supports Mr. Murphy's contention. "But," he adds, "this cannot be said of the figures relatively to the recrudescence of the disease in 1881–90," inasmuch as "in England and Wales as a whole children aged from two to three years were most affected by this rise, while in London the increased incidence fell yet a year earlier." It is impossible not to recognise from this argument that Dr. Smith fails to grasp the point really at issue here—namely, whether the Education Act has actually contributed in any important degree to the recent prevalence of diphtheria; for he bases his statement on the incidences of mortality in 1871–80 as compared with 1881–90, whereas the Act had been passed in 1870. If Dr. Smith had compared the behaviour of diphtheria in 1861–70 with that in 1881–90, or with that in 1891–94 he would have found that his expectation "that any tendency to school infection would show itself in a marked manner at age four," would have been fully realised. In these comparisons the maximum increase is found, in each case, to be in children at ages from four to five years. Subsequent pages of Dr. Smith's report exhibit a similar fallacy, and suggest the notion that the writer fails to understand that two distinct factors have herein to be considered: the one, the natural behaviour of diphtheria in relation to age incidence, the other, the effect of the Act of 1870 upon this incidence; and that the effect of the Act can be appreciated only by contrasting the incidence of mortality in the several ages in periods respectively preceding and following the year 1870. It is to be hoped that having

regard to the importance of the subject, Dr. Smith will see fit to reconsider his conclusions in connexion with this part of his report. Dr. Smith next touches on the decrease in the diphtheria attacks notified in London at a time which corresponds with the interruption of school attendance by the summer holidays. He thinks that the decrease in the number of attacks is not due to diminished opportunities of infection, and while apparently admitting that there is a diminution of disease incidence about this time, he is evidently disposed to account for it by the migration of children from London for the summer vacation. But this explanation had already been considered by Mr. Shirley Murphy and held by him to be insufficient. Mr. Murphy has, moreover, shown that both in 1893 and 1894, when children from three to ten years are considered, the August decrease corresponds with the closing and the subsequent increase with the re-opening of the schools of the London School Board, *due allowance being made for the incubation period and for some delay in notification;* and, lastly, he has shown that the decrease in attacks among children aged under three years occurs somewhat later, "in a way to suggest that the attacks of children at the earlier age were due to infection from the older children, whilst the decrease in the attacks among the former was due to diminished opportunities of infection from the latter."

In conclusion, some reference must be made to Dr. Smith's inquiries into the origin of infection among about 2000 persons admitted into the hospitals of the Metropolitan Asylums Board. Using such aids for his inquiry as ambulance nurses and school teachers, Dr. Smith arrives at the conclusion that 7·6 per cent. of the cases at school age were due to school infection. Unfortunately, Dr. Smith's figures do not permit of the formation of a safe judgment as to how nearly this percentage represents the full proportion of attacks attributable to school influence, but if this proportion be assumed to be correct even Mr. Shirley Murphy could scarcely desire a more complete justification of the position which he has assumed. We must, therefore, express the opinion that the arguments in Dr. Smith's elaborate report fail to weaken in the slightest degree the force of the contention advanced in Mr. Shirley Murphy's memorandum and in his presidential address of 1894, and we trust that the educational and sanitary authorities of the metropolis will relax none of their endeavours to minimise the dangers which there still continues to be reason for associating with the aggregation of children in school under existing conditions.

THE POWERS AND DUTIES OF SANITARY AUTHORITIES.

NOTHING is more bewildering to those whose duties are more or less governed by the Factory and Workshops Acts than the cross references which abound in these documents of legislation; in addition to this the meaning of some of the sections are by no means clear and the re-codification of the existing Acts is most desirable. To disentangle as Dr. J. F. Sykes attempted to do in a paper read before the Sanitary Institute on Wednesday, April 15th, from the Factory and Workshops Acts, 1878 to 1895, the powers and duties of sanitary authorities was not an easy task, but Dr. Sykes is to be complimented on the way in which he accomplished it. Prefacing his remarks with some preliminary details and definitions he gave an apt illustration of the involved nature of the factory and workshop legislation.

The Factory and Workshops Act of 1878, Section 3, relating to effluvia, overcrowding, ventilation, &c., and Section 33, relating to lime-washing, washing, &c., applied to all factories and workshops. The same Act, Section 61 (1), exempted domestic workshops from Sections 3 and 33. The same Act, Section 101, exempted from the nuisances, Section (91) of the Public Health Act of 1875, all factories and workshops within the provisions of the Factory and Workshops Act, but relegated to the nuisances section above mentioned every other factory, workshop, or workplace. The Factory and Workshop Act of 1891, by Section 39 and Schedule 2, withdrew workshops within the Factory and Workshops Acts from Section 101 of the Factory and Workshop Act, 1778. The same Act of 1891 by Section 3 (1) withdrew workshops from Sections 3 and 33 of the Factory and Workshop Act, 1878. The net result of these cross references being that all extra-metropolitan workshops and workplaces are relegated by the Factory and Workshops Act, 1891, to Section 91 of the Public Health Act of 1875, and similarly Section 2 of the Public Health London Act, 1891, has now within its pale all metropolitan workshops and workplaces.

Confining his attention to nuisances special to workshops Dr. Sykes said it was the duty of a sanitary authority to see with regard to every workshop within a district:—1. That it is kept in a cleanly state. 2. That it is kept free from effluvia arising from any drain, closet, urinal, &c. 3. That it is ventilated in such a manner as to render harmless any gases, vapours, dust, or other impurities generated in the course of the work carried on therein. 4. That it is free from overcrowding—that is, that at least two hundred and fifty cubic feet of space per head are provided during ordinary working hours and four hundred cubic feet during overtime. 5. That the prescribed notice specifying the number of persons who may be employed in each room is duly affixed at the entrance to the workshop or that the fact is otherwise made known. 6. That a reasonable temperature is maintained in each workroom. 7. That it is lime-washed, cleansed, or purified when necessary for health as certified by an officer of the sanitary authority, bakehouses being excepted and otherwise provided for. 8. That it is provided with sufficient and suitable sanitary conveniences for each sex. 9. That note is made of the employment of protected persons in order that the factory inspector may be informed. 10. That the list of outworkers is inspected.

In addition to the ordinary requirements for a workshop already enumerated it is also the duty of a sanitary authority with regard to every bakehouse within its district to see:—1. That the inside walls, ceilings, &c., are (*a*) either painted or varnished every seven years and washed every six months, or are (*b*) lime-washed every six months. 2. That a sleeping place is effectually separated from any bakehouse in the same building, and is lighted and ventilated by an external window at least nine feet square, one half being made to open. 3. That a bakehouse cistern is separate and distinct from any water-closet cistern. 4. That any water-closet, earth-closet, privy, or ashpit is cut off from direct communication with a bakehouse. 5. That no drain or pipe for carrying off fæcal or sewage matter has an opening in the bakehouse. 6. That no bakehouse is in such a state as to be, on sanitary grounds, unfit for use as a bakehouse. 7. That no underground bakehouse is newly brought into use.

In the Public Health London Act, 1891, Section 141, the expression "bakehouse" means any place in which are baked bread, biscuits, or confectionery from the baking and selling of which a profit is derived. In the Factory and Workshop Act, 1883, Section 17 (1), it is provided that the sanitary authority shall enforce the sanitary provisions with regard to "retail bakehouses," and they are defined as places where the bread, biscuits, or confectionery baked in which are not sold wholesale, but by retail in some shop or place occupied together with such bakehouse. Section 36 of the Act of 1891 merely repeats the exception of bakehouses which are factories, and appears to be a redundant provision. The interesting point is the curious fact that in the metropolis wholesale bakehouses (not factories) are controlled by sanitary authorities, whereas outside the metropolis they are controlled by factory inspectors, another of the strange results of the complicated provisions of legislation by cross references. The sanitary provisions, the affixing of notices and abstracts, notice of occupation, and other provisions of the Acts, now apply to laundries, except to laundries of certain public institutions, domestic laundries, and laundries where not more than two non-residents are employed. By Section 27 of the Factory and Workshop Act of 1891 it was provided that the occupier of every factory and workshop and every contractor employed by such occupier shall, if required by order of the Secretary of State, keep a list of all persons employed, either as workmen or as contractor, outside the factory or workshop, and of the places where they are employed, such list to be open to inspection by any factory inspector or officer of a sanitary authority. In November, 1892, the Secretary of State made such an order with regard to the manufacture of wearing apparel, electro-plate and files, cabinet and furniture making and upholstery work. By Section 42 of the Factory and Workshop Act of 1895 it was further provided that the lists described in Section 27 of the Act of 1891 shall be sent on March 1st and September 1st in each year to the factory inspector of the district, and it was also provided that Section

27 of the Act of 1891 shall (by statute) apply to any place from which any work of making wearing apparel for sale is given out, as if that place were a workshop.

With reference to the relationship of the sanitary authority to the inspector of factories, by Section 26 of the Factory and Workshop Act of 1891 notices of the opening of new workshops, and by Section 41 of the Factory and Workshop Act of 1895 notices of the occupation of existing workshops, must be sent to the inspector of factories, and by him forwarded forthwith to the sanitary authority of the district. On the other hand, by Section 27 of the Public Health (London) Act, 1891, if the medical officer of health becomes aware of any child, young person, or woman being employed in a workshop, he must forthwith give notice of the fact to the factory inspector of the district. Section 29 of the Act of 1895 provides that any case of lead, phosphorus, or arsenical poisoning, and of anthrax contracted in any factory or workshop shall be notified by the medical attendant to the chief inspector of factories; that written notice of the case shall then be sent to the factory inspector and to the certifying surgeon, and be regarded as an accident, of which the latter is required to investigate the nature and cause. Now that the recently-appointed chief inspector of factories is a thoroughly experienced and well-known medical officer of health the objection raised to this provision ceases to have the weight it originally undoubtedly had; but this entirely new departure in the notification of disease will be watched with interest both by the public and the medical profession. Washing conveniences are also now required to be provided where lead, arsenic, or other poisonous substances are used in any factory or workshop. Further, the occupier of a factory or workshop is not allowed to employ any woman within four weeks after childbirth.

A few words must be devoted to the section of last year's Act, which provides that the occupier of any place where wearing apparel is made, cleaned, or repaired, or where it is given out for these purposes, or any sub-contractor of the occupier, is liable to a maximum penalty of £10 if he allows any wearing apparel to be made, cleaned, or repaired in any dwelling house or building occupied therewith, whilst any inmate is, to his reasonable knowledge, suffering from scarlet fever or small-pox. This will apply to tailoring, dressmaking, millinery, &c., as well as to laundrying, mangling, &c. It is rarely that an employer knows anything of the health of other persons residing in the same houses as his employés. He can only know of small-pox or scarlet fever if he be informed by his employé or by the sanitary authority, whose officer again would in turn have to be informed by the employé of the name and address of the employer, and there is no compulsion to disclose this, so that the working of this section must depend mainly upon the goodwill of the employé, to whom no provision of compensation for loss of employment is made. As medical officers of health are notified of all cases of scarlet fever and small-pox, what is really required is to give specific power to sanitary authorities to enforce removal to hospital of any cases of scarlet fever or small-pox occurring in any house where wearing apparel is made, cleaned, or repaired.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A MEETING of the Comitia was held on May 14th, Dr. SAMUEL WILKS, President, being in the chair. After the minutes had been read and confirmed, the PRESIDENT announced that Dr. Collingridge, Medical Officer of Health of the Port of London, had been nominated Milroy Lecturer for the ensuing year. It was also announced that the committee appointed to consider the Midwives Bill had not met, the Bill having been abandoned. The following gentlemen were then admitted to the Fellowship: Charles Montague Chadwick, M.D. Oxon., Harry Campbell, M.D. Lond., Arthur Gamgee, M.D. Edin., John Anderson, C.I.E., M.D. St. And., John Michell Clarke, M.D. Camb., Sir Hugh Reeve Beevor, M.D. Lond., Ernest Septimus Reynolds, M.D. Lond., William Hunter, M.D. Edin., William Aldren Turner, M.D. Edin., and Arthur Pearson Luff, M.D. Lond.

Formal communications were received from the headmaster of the school at Bury St. Edmunds, conveying the thanks of the governors, masters, and scholars for the portrait of Sir Thomas Watson; and from the Registrar of the General Medical Council announcing that the term of office of the representative of the College in the General Medical Council had expired. The Comitia proceeded to elect a representative and Sir Dyce Duckworth was re-elected by a large majority. The PRESIDENT bore testimony to the service rendered by Sir Dyce Duckworth to the interests of the College at the meetings of the General Medical Council, and after a few remarks from Sir DYCE DUCKWORTH the meeting adjourned.

THE AMERICAN MEDICAL ASSOCIATION.

THE New York *Medical Record* reports the proceedings of the forty-seventh annual meeting of this association, held at Atlanta, Georgia, on May 5th, 6th, 7th, and 8th. The proceedings comprised many matters of interest, of which we can now only notice the chief. The President (Dr. Beverly Cole), in his opening address, noticed what he called a lowering of the standard of the profession, a falling off from the days "when the medical man was a gentleman as well as a scholar." He found the reason of this undoubtedly in the multiplicity of schools, with their bidding for patronage. He acknowledged efforts after a better state of things in many places, mentioning New York and Illinois, and "perhaps some other States," but doubted that the "commenced advance was not much more than a species of advertisement." He denounced the tendency of large life insurance companies to cut down examiners' fees, saying surely the fee of five dollars was small enough. He noticed that there was a tendency in foreign physicians to come to practise in the United States. Speaking of the Moscow Congress he regarded the exclusion of the English language as an insult to English-speaking people. He lamented the proneness of the clergy to endorse every quack nostrum, and was still more severe on certain medical men who give testimonials to proprietary remedies. In the conclusion of his address Dr. Cole deprecated the tendency to mutilate the human body by excessive surgery, fully admitting its honorable achievements. The appendix seems the organ most liable to such practices in the States, so that the Hon. John Temple Graves, in welcoming the association, alluded to this portion of the body as liable to special attack in a community so healthy as to leave little else for treatment by a faculty they were nevertheless all glad to welcome. The address in medicine by Dr. William Osler of Baltimore, and that in surgery by Dr. N. Senn of Chicago, were the chief features of the meeting. Dr. Osler, observing that humanity had suffered from three great enemies—fever, famine, and war—mentioned that three of the greatest benefits conferred on mankind had reference to fevers—the introduction of cinchona, the discovery of vaccination (which was duly celebrated at a later stage of the meeting), and the announcement of the principle of asepsis. He discoursed chiefly on typhoid fever, which he said was to-day the fever of their country. The address of Dr. N. Senn on "Some of the Limits of Surgery" was important. While magnifying surgery now founded on modern pathology and the new science of bacteriology, he deprecated the *furor operativus* manifested in special departments of surgery, and said that operative surgery had been carried to extremes. He showed the rapidity with which general infection may take place from the experiments of Schimmelbusch, who found micro-organisms in the spleen five or ten minutes after infection of a wound. We can only indicate a few of the subjects in which he indicated the limits of surgery in plain, not to say strong, language. Early resection or arthrectomy in cases of tuberculous joints he thought had been disappointing. In hundreds of cases he had got most satisfactory results from intra-articular and parenchymatous injections of iodoform and glycerin. Cure was obtained in one-half or two-thirds of uncomplicated joint cases. As regards the surgery of the abdomen, nearly 50 per cent. of cases subjected to radical treatment for malignant disease succumbed to the operation. He himself had opened the abdomen for malignant disease of the stomach in nineteen cases, and in only one was the disease limited to the organ first affected. He was especially plain in his words on the "greatest onslaught of modern surgery on the organs of generation, male

and female, and did not know where it was to end." "The mutilating work," he said, still continues, and he was especially severe on the recent graduate who, after watching the practice of a much-employed gynæcologist for a month or two, starts as a full-fledged specialist and is ready to extirpate the uterus, remove ovaries and Fallopian tubes, and sew up imaginary lacerations of the cervix and perineum. "The frequency with which women are being castrated is one of the most flagrant transgressions of the limits of the art of surgery," said Dr. Senn, and asked, "Where is this wholesale unsexing of our population to end?" He was scarcely more reserved in his plea in favour of conservatism in the treatment of prostatic hypertrophy. Finally, he declared that he had written without malice in the interest of sufferers and "as a plea for the recognition of good work done by the great mass and back bone of our profession—the modest, toiling, inadequately-remunerated general practitioner."

OYSTERS AND TYPHOID FEVER.

WITH reference to the special article which appeared in THE LANCET of Feb. 2nd, 1895, under the heading of "Oysters and Typhoid Fever" a good deal was said before a committee of the House of Commons recently on the subject of the possible communication of disease as a result of the consumption of oysters in a raw state. The Brighton Corporation are promoting a Bill in Parliament "To confer further powers upon the Mayor, Aldermen, and Burgesses of the Borough of Brighton," known as the Brighton Improvements Bill. Among the clauses is one allowing the Corporation or sanitary committee to make an order forbidding the introduction into Brighton of shell-fish from ponds or rivers contaminated with sewage in case of the medical officer of health attributing infectious disease in the borough to such shell-fish. Cases of typhoid fever have already been ascribed to the eating of sewage-contaminated oysters and other shell-fish from Shoreham Harbour, and it is alleged that in the year 1894 at least 40 per cent. of the cases of enteric fever originating in Brighton were ascribable to such shell-fish. However, this particular clause in the Bill has been struck out. It was strongly opposed by the two oyster merchants who are carrying on an extensive business with the favourite bivalvular mollusc in Shoreham Harbour—the port of Brighton, and a short distance from the borough. Dr. Newsholme in his evidence before the committee went fully into the cases which he ascribed to the eating of oysters and mussels from Shoreham Harbour, and was corroborated by Sir Joseph Ewart, M.D. Dr. Klein, F.R.S., gave the result of a bacteriological examination of water from the harbour and also of oysters submitted to him. There was, he said, sewage matter in both to a considerable extent, but he could find no definite trace of typhoid germs. He considered, however, that there was great risk of disease being caused under such conditions. Dr. Sharkey said that the general evidence of typhoid fever being spread by oysters was very strong. This concluded the evidence on this clause, and Sir William Marriott, Q.C., who, with Mr. Pember, Q.C., and Mr. A. V. Frere, appeared for the promoters, said he had no doubt the clause as it stood was very strong and he could quite understand the objection to placing so much power in the hands of the medical officer of health, who might seriously damage a trade. Any suggestion, he added, by which the action of the authorities might be made subject to an appeal to the Local Government Board or otherwise would be accepted by the Corporation; but after a deliberation of the committee in private the chairman (Mr. Mount) said they were of opinion that the clause should not be granted. During the proceedings the special article in THE LANCET was referred to. The article included a verbatim report of a bacteriological investigation of water from an oyster-bed in Shoreham Harbour and of oysters from the same source made by Professor Crookshank, M.B., Director of the Bacteriological Laboratory, King's College, London. The following extract practically summarises the report: "The question which I have been asked is whether oysters from this particular bed are likely to be injurious to the consumer. From the bacteriological investigation of the samples of water and of oysters submitted for examination I am of opinion that there is no evidence, from the bacteriological examination, which would lead me to condemn the oysters as dangerous or unfit for food. I am led to this conclusion by the absence of typhoid fever bacilli and by the absence of any septic micro-organisms, and by the fact that all the micro-organisms which I succeeded in isolating were perfectly harmless species. I would venture to add, however, that more than a bacteriological investigation is required to relieve public anxiety upon the question of a possible danger arising from the consumption of uncooked oysters."

THE OBLIGATIONS OF THE GENERAL MEDICAL COUNCIL, MEDICAL SCHOOLS, AND CORPORATIONS IN RELATION TO THE RIGHTS OF MEDICAL MEN.

AT a meeting on May 15th of the Select Committee of the Civil Rights Defence Committee on this subject, Mr. Timothy Holmes, F.R.C.S. Eng., in the chair, the resolution appointing this committee having been read, the resolutions of the meeting of the Civil Rights Defence Committee of Jan. 9th, 1896, were read as follows:—

1. That, as many of the great lay and medical public bodies will refrain from coöperating in the defence of the professional and civil rights entrusted to the committee until a strong consensus of opinion is aroused urging them to do so, the constituent bodies of the committee are asked to adopt resolutions in the sense of those adopted by the committee.

2. That the professional bodies represented on the Civil Rights Defence Committee be asked to use their influence with the medical schools which induce young men to enter the medical profession and with the General Medical Council, the universities, and corporations which confer upon them supposed rights, now formally declared to be held entirely at the pleasure of the Crown, acting by the judges, and ask them to unite in making good the rights which they take part in promising and which are now imperilled by the decision of the Court of Appeal.

General Graham's memorandum of Feb. 7th, 1896, to the medical papers requesting an expression of opinion on these resolutions was brought up and also THE LANCET of May 9th with an article on the work of the committee dealing with the obligations of the General Medical Council, medical corporations, and medical schools in relation to the rights of medical men, taking the same view as that adopted by the committee in the memorandum and resolutions, and declaring that these bodies are at present subsisting by holding out to men entering the profession false promises of rights now declared by the decision of the Court of Appeal to have no existence, and that it is incumbent on such bodies to discontinue receiving such moneys until the rights for which they receive them are vindicated.

Correspondence with the General Medical Council, the University of London, the Royal College of Physicians of London, the Society of Apothecaries, London, and St. Mary's Hospital Medical School inviting coöperation was laid on the table.

Lord Stamford's letter inviting the coöperation of the General Medical Council in defence of the rights confirmed by its certificate of registration was read. General Graham explained that the only reply had been from the solicitor of the Council, and not from the President, stating that the case is outside the scope of the Council and ignoring the grounds of the invitation.

Resolved:—

1. That a letter be drafted for the next meeting, to be addressed to the President of the General Medical Council for signature by the medical members of the committee, supporting the invitation conveyed by the President.

2. That letters be similarly prepared to be written to the President and Council of the following bodies: the Royal College of Surgeons of England, the British Medical Association, the Association of Fellows of the College, the Medical Defence Union, and the West London Divisions of the London and Counties Medical Protection Society, requesting each to act independently in support of this committee in earnestly inviting the coöperation of the General Medical Council.

Correspondence with the Society of Apothecaries was next considered, including an invitation to coöperate, to which no answer had yet been received.

Resolved:—

1. That a letter be drawn up for signature by the medical members of the committee supporting the invitation to the society to

unite in vindicating the rights of the society under its charter infringed in the violation of Mr. Anderson's rights as a Licentiate, and to use its influence with other guilds to unite in this defence of common rights.

2. That a report of the meeting be sent to the medical papers.

The meeting adjourned until to-day (Friday) at 6 P.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on the 14th inst., the President, Mr. CHRISTOPHER HEATH, being in the chair.

Mr. Harold J. Stiles was introduced and the President handed him the Walker Prize, and Dr. A. A. Kanthack was presented with the Jacksonian Prize.

A letter was read from Dr. J. S. Edkins, with a memorial signed by various professors and lecturers on physiology in the United Kingdom, requesting that certain alterations be made in the present examination in physiology for the Fellowship. It was resolved that Dr. Edkins should be informed that as the subject of physiology at that examination had been very fully considered so lately as eighteen months ago the Council did not see their way to reopen the question.

It was resolved that the annual meeting of Fellows of the College for the election of members of the Council should be held at the College on Thursday, July 2nd next, at 1 30 o'clock P.M. precisely, and that the meeting of the Fellows should be held on the same day at 5 o'clock P.M.

Mr. TWEEDY moved: "That a poll of the Fellows be taken respecting the motion passed at the general meeting of Fellows on the 2nd of January in favour of giving to the Members of the College direct representation upon the Council, and that a committee be appointed to prepare for the approval of the Council an elucidatory statement of the subject in question, together with the interrogatories which shall be submitted to the Fellows."—The resolution was carried and a committee was appointed.

A letter from Mr. W. G. Dickinson was read communicating a resolution adopted by the committee of the Society of Members respecting the resolution adopted by the Council on the subject of the representation of Members on the Council. A letter was also read from Mr. H. P. Dunn communicating a resolution adopted by the committee of the Association of Fellows, expressing regret that the Council had not adopted the resolution passed at the last meeting of Fellows, and the hope that the whole body of Fellows might be consulted on the subject. The receipt of the letters was acknowledged.

Mr. RIVINGTON moved: "That the following resolution carried at a previous meeting of the Council be rescinded—viz.: 'As the members of this Council represent the body corporate of this Royal College, and consequently its Members as well as its Fellows, it is the opinion of this Council that no further representation of the Members is desirable.'"—The motion was not carried.

THE SOUDAN EXPEDITION.

THERE has been but little to record in connexion with this expedition during the past week, nor does it seem likely that anything of importance will occur until the advance takes place. There appears to be little doubt that this may eventually assume the shape of a combined but double movement from Wady Halfa and from Suakin. The Indian force will reach Suakin in the course of another week, when the Egyptian troops garrisoning that place will be free to join the force operating in the Nile direction. We do not yet know what will be the hospital arrangements for the Indian contingent at Suakin. There will be a hospital—probably a field hospital—on shore, and possibly one of the ships may be utilised as a floating hospital, but we do not apprehend that (unless an outbreak of cholera should unhappily occur among them) there will be any large amount of sickness among the men of the Indian force, as they are acclimatised and accustomed to field service. All the transport arrangements have been completed for the transfer of the Egyptian garrisons on the Red Sea on their evacuating Suakin and Tokar when relieved by the Indian troops. There was a rumour that the North Staffordshire Regiment was about to be recalled from Wady Halfa to Cairo, but this appears to be quite unfounded. The regiment is much more likely to move in a southward than a homeward direction. In spite of the great heat (happily relieved at night by a breeze), the discomfort of sandstorms, and the monotony of the life, the troops are quite as healthy as could be expected. The hospital arrangements at Akasheh and Wady Halfa are described as very satisfactory. At Akasheh there is only accommodation for 150 sick, but the health of the troops—British and Egyptian—is, as we have said, good. An invalided British officer from Akasheh was recently conveyed successfully from that station to the Citadel Hospital at Cairo. The transport arrangements were excellent, and there were ample supplies of ice and necessaries *en route*. There are a great many rumours about the Dervish troops, but very little is really known of their actual or intended movements or as to the strength which can be brought into the field in defence of Dongola. It is said that Ferkeh, an outpost camp beyond Akasheh held by the Dervishes, has been evacuated; if so it will probably be occupied by the Egyptians. There is a good deal of activity still displayed among the military and War Office authorities at Cairo. The occurrence of an outbreak of cholera at Alexandria with some cases at Cairo is, of course, an unfortunate and embarrassing circumstance, which engages, naturally, a good deal of anxious attention on the part of the Egyptian Government and its sanitary department; but there is no reason to suppose that it will spread to posts along the Nile at a great distance from Egypt and affect the expeditionary force there.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6279 births and 3830 deaths were registered during the week ending May 16th. The annual rate of mortality in these towns, which had been 18·4 and 18·5 per 1000 in the two preceding weeks, declined again last week to 18·4. In London the rate was 17·8 per 1000, while it averaged 18·8 in the thirty-two provincial towns. The lowest rates in these towns were 11·7 in Brighton, 13·3 in Derby, 13·4 in West Ham, and 14·4 in Norwich and in Leicester; the highest rates were 21·2 in Liverpool, 22·0 in Salford, 23·0 in Sunderland, 26·0 in Plymouth, and 28·5 in Manchester. The 3830 deaths included 561 which were referred to the principal zymotic diseases, against 641 and 622 in the two preceding weeks; of these, 201 resulted from measles, 183 from whooping-cough, 72 from diphtheria, 40 from scarlet fever, 34 from diarrhœa, 30 from "fever" (principally enteric), and not one from small-pox. No fatal case of any of these diseases occurred either in Brighton or in Preston; in the other towns they caused the lowest death-rates in Leicester, Derby, and Leeds; and the highest rates in Birkenhead, Croydon, Sunderland, and Manchester. The greatest mortality from measles occurred in Bristol, Portsmouth, Manchester, Sunderland, Birkenhead, and Oldham; from whooping-cough in West Ham, Huddersfield, Halifax, Birmingham, and Swansea; and from "fever" in Birkenhead. The mortality from scarlet fever showed no marked excess in any of the large towns. The 72 deaths from diphtheria included 43 in London, 5 in West Ham, 4 in Liverpool, 3 in Cardiff, and 3 in Birmingham. One fatal case of small-pox was registered in Cardiff, but not one in any other of the thirty-three large towns. There were 20 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 16th inst., against 16, 13, and 15 at the end of the three preceding weeks; 6 new cases were admitted during the week, against 8, 3, and 5 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2539, against 2534, 2523, and 2527 on the three preceding Saturdays; 293 new cases were admitted during the week, against 236 and 238 in the two preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 292 and 260 in the two

preceding weeks, further declined to 249 last week, and were 74 below the corrected average. The causes of 68, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Nottingham, Bradford, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Blackburn, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·0 and 18·9 per 1000 in the two preceding weeks, rose again to 19·3 during the week ending May 16th, and was 0·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11·8 in Greenock and 15·4 in Perth to 19·9 in Aberdeen and 21·1 in Glasgow. The 563 deaths in these towns included 38 which were referred to whooping-cough, 17 to diarrhœa, 9 to measles, 4 to "fever," 5 to scarlet fever, 1 to diphtheria, and not one to small-pox. In all, 72 deaths resulted from these principal zymotic diseases, against 76 and 69 in the two preceding weeks. These 72 deaths were equal to an annual rate of 2·5 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 30 and 25 in the two preceding weeks, rose again to 38 last week, of which 24 occurred in Glasgow, 8 in Aberdeen, and 3 in Dundee. The deaths referred to measles, which had been 11 in each of the two preceding weeks, declined to 9 last week, and included 6 in Glasgow. The deaths referred to different forms of "fever," which had increased from 4 to 14 in the three preceding weeks, declined again to 4 last week, of which 2 occurred in Glasgow and 2 Edinburgh. The 3 fatal cases of scarlet fever corresponded with the number in the preceding week, and included 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 88 and 110 in the two preceding weeks, declined to 92 last week, and were 17 below the number in the corresponding week of last year. The causes of 31, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate n Dublin, which had been 23·7 and 21·9 per 1000 in the two preceding weeks, rose again to 22·8 during the week ending May 16th. During the past seven weeks of the current quarter the death-rate in the city has averaged 23·3 per 1000, the rate during the same period being 18·7 in London and 17·7 in Edinburgh. The 153 deaths registered in Dublin during the week under notice showed an increase of 6 upon the number in the preceding week, and included 5 which were referred to the principal zymotic diseases, against 10 and 13 in the two preceding weeks; of these, 2 resulted from diarrhœa, 1 from scarlet fever, 1 from diphtheria, and 1 from whooping-cough, but not one either from small-pox, measles, or "fever." These 5 deaths were equal to an annual rate of 0·7 per 1000, the zymotic death-rate during the same period being 3·2 in London and 0·9 in Edinburgh. The 2 fatal cases of diarrhœa corresponded with the number recorded in the preceding week, while the mortality from scarlet fever was lower than in any recent week. The 153 deaths registered in Dublin last week included 30 of infants under one year of age, and 44 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons considerably exceeded the numbers in any recent week. Four inquest cases and 3 deaths from violence were registered; and 70, or nearly one-half, of the deaths occurred in public institutions. The causes of 17, or more than 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

INDIA AND THE INDIAN MEDICAL SERVICES.

THE Queen has approved of the following promotion in the Indian Medical Service made by the Government of India:—To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel Andrew Deane, Bengal Establishment. Her Majesty has also approved of the retirement from the service of the undermentioned officers:—Brigade-Surgeon-Lieutenant-Colonel William Price, M.D., Madras Establishment; Surgeon-Lieutenant-Colonel Peter Johnston Freyer, M.D., Bengal Establishment.—*London Gazette.*

The services of Surgeon-Colonel T. J. McGann (Madras) are replaced at the disposal of the Military Department. Surgeon-Major R. Shore (Bengal), Medical Officer of the Mewar Bhil Corps, is appointed to officiate as Medical Officer, Kotah and Jhalrapatan. Surgeon-Captain H. R. Woolbert (Bengal), Medical Officer of the Deoli Irregular Force and of the Harauti and Tonk Political Agency, is appointed to officiate as Residency Surgeon in Mewar, vice Surgeon-Major H. N. V. Harington. Surgeon-Lieutenant-Colonel P. A. Weir (Bengal), Residency Surgeon in Nepal, is appointed to officiate as Medical Officer of the Deoli Irregular Force and of the Harauti and Tonk Political Agency. Surgeon-Major R. Neill Campbell, Officiating Senior Medical Officer, Port Blair, is appointed to be *ex-officio* Assistant Superintendent in the Settlement. Surgeon-Lieutenant-Colonel J. W. Clarkson is appointed to be Sanitary Commissioner for the Government of Bombay. Surgeon-Captain W. E. Jennings has delivered over the charge of the Shikarpur Prison. Surgeon-Major J. Crimmin, V.C., and Surgeon-Captain W. E. Jennings, M.B., have respectively delivered over and received charge of the office of Health Officer of the Port of Bombay.

NAVAL MEDICAL SERVICE.

The following appointments are announced:—Surgeons: A. E. Merewether, W. R. Center, C. M. Beadnell, W. S. H. Sequeira, J. G. Fowler, J. C. G. Reed, E. G. E. O'Leary, W. M. Keith, E. Sutton, W. E. Matthew, M. L. M. Vaudin, W. H. Thomson, J. W. Craig, W. L. Martin, A. T. Wysard, W. J. Stitt, and S. Croneen to the *Victory* for Haslar Hospital; A. W. B. Livesay to the *Victory*, additional for disposal; A. F. Harper to the *Scylla*; and J. H. Stenhouse to Plymouth Division of Royal Marines.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas J. Compton to be Surgeon-Major.

VOLUNTEER CORPS.

Artillery: 1st London (City of London): Alfred Allport, gent., to be Surgeon-Lieutenant. The Highland: Surgeon-Lieutenant G. A. Lang, M.B., to be Surgeon-Captain. *Engineer: Fortress and Railway Forces, Royal Engineers:* 1st Middlesex: Surgeon-Lieutenant W. H. Bourke, M.D., to be Surgeon-Captain. *Rifle:* 4th Volunteer Battalion the Norfolk Regiment: George Lowe, M.D., to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Royal Welsh Fusiliers: Evan Thomas Hughes, gent., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Duke of Cornwall's Light Infantry: Charles Cecil Bullmore, gent., to be Surgeon-Lieutenant. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant W. L. Hughes resigns his commission.

THE EXAMINATIONS FOR NAVAL SURGEONS.

The under-mentioned gentlemen who competed on the 4th inst. and following days at Examination Hall, Victoria Embankment, for appointment as Surgeons in the Royal Navy have been granted commissions:—

Name.	Marks.	Name.	Marks.
A. E. Merewether, M.B. ...	2712	W. E. Matthew	2307
W. R. Center, M.B.	2680	M. L. M. Vaudin, M.B. ...	2260
C. M. Beadnell	2631	W. H. Thomson	2181
W. S. H. Sequeira, M.B. ...	2605	J. W. Craig, M.B.	2175
J. G. Fowler	2494	W. L. Martin	2171
J. C. G. Reed	2446	A. T. Wysard	2161
E. G. E. O'Leary	2393	W. J. Stitt	2109
W. M. Keith, M.B.	2365	S. Croneen	2055
E. Sutton	2318		

NAVY ESTIMATES.

In the recent debate on the navy estimates, when the House went into Committee of Supply, there was extremely little of a medical character touched upon beyond some remarks by Admiral Field on the lady nursing system introduced into the naval hospital service, with special reference to Malta, and the old grievance about the toll exacted at the bridge leading to Haslar Hospital. Mr. Macartney concurred in the remarks of the gallant admiral as to the valuable services of the nursing sisters, adding that he understood there was a head nursing sister at Malta. With reference to the

toll-bridge at Haslar he was prepared to consider any representations that might be made.

THE LEE-METFORD BULLET.

It will be remembered that experience in India during the Chitral expedition was not altogether favourable to this missile in that it was not found to possess sufficient "stopping" power. We noticed, too, that a similar complaint was made of the bullet by the defenders of Bulawayo in their encounters with the Matabeles, and it was alleged that on this account the Martini-Henry had been substituted for the Lee-Metford rifle. As the result of experimental investigations in India it is announced, however, that by a slight modification in the Lee-Metford bullet this defect has been completely overcome.

THE MILITIA AND THE SPREAD OF SMALL-POX.

We recently printed a letter from a correspondent calling attention to the danger of importing small-pox from Gloucester into hitherto healthy districts by assembling men from the affected city and district for their annual militia training. We are glad to see, therefore, that Her Majesty has been advised to dispense with the calling out of the third and fourth battalions of the Gloucestershire Regiment, an order in respect to which appears in the *London Gazette* of May 15th.

Surgeon-Major T. B. Moffitt, A.M.S., will arrive at Netley for duty on the 23rd inst.

Correspondence.

"Audi alteram partem."

"X" RAYS: INSTANTANEOUS PHOTOGRAPHY AND EXPERIMENTS UPON THE HEART AND OTHER SOFT TISSUES.

To the Editors of THE LANCET.

SIRS,—Considerable attention has lately been paid to the use of fluorescent screens and special plates with a view to the reduction of the time of exposures. The object of this communication is not to minimise the importance of any aid which may be placed in the hands of a surgeon, because whatever success should attend the ordinary and simpler methods it is not unlikely that instances may occur for which we should require every facility at our disposal. In my previous communications, however, I have pointed out that just as we desire good sunlight in ordinary photography more than quick plates, so in this work a good Crookes's tube is what we most need. The experiments below have all been done with the ordinary focus tube, Paget XXXXX plates, and hydrokinone developer. With regard to the tubes I have made many modifications by experiment, such as increasing the size of the aluminium concave disc to one and three-quarter inches in diameter. What I find is most important, however, is the proper vacuum. Hence I am more particular than ever, when I wish a tube for special work, to superintend the exhaustion and to test it on the fluorescent screen before taking off the pump. Another improvement is to be got by watching the current passing through the coil. I found that the fluorescence with the mercury interruptor was much greater than that with the ordinary platinum spring, and on testing with Lord Kelvin's cell tester and ampèremeter I found that when the current across the terminals was as high as 17 ampères during the time of exposure and when the spring was vibrating the meter would not register more than 1 ampère. On the other hand, with the mercury interruptor one single flash was enough to send it up to something like 5 or 7 ampères. Instead, therefore, of counting the exposures in minutes and seconds in instantaneous work I use the mercury interruptor and register the number of flashes in the tube due to each vibration of the interruptor. By this means I have photographed the bones of the hand with one flash of the tube and obtained the best negative I have ever taken of the bones of the hand with ten such flashes. The current across the terminals during this experiment registered 10 volts and 10 ampères and the spark was from 10 to 11 inches in length.

This is not, however, the only advantage of the method described, because by making a series of observations on the fluorescent screen I was able to distinguish shadows of many of the soft tissues of the body. As stated in a report of the demonstration given to the British Laryngological Association, I have seen and photographed the deep structures of the neck, including the larynx and tongue. I have now distinctly seen the cardiac area in the living subject, showing its right and left borders, base, and apex. In a photograph of the same the relationship of the ribs, clavicle, &c., are also well defined. The diaphragm covering the liver on the right side is also well seen. I have photographed the normal heart in a number of cases (with its pericardial covering of course), and in some of these experiments with the ordinary tube it did not take more than eight minutes' interrupted exposures. In one, a young subject, hypertrophy of the right ventricle with enlargement of the liver could be distinctly made out. I would add one more note in passing: the vacuum of every tube changes during exposure, but with a little experience and by means of a Bunsen's flame it can be easily brought back to the condition which gives the maximum number of "x" rays. For the above reasons I have not found quick plates or fluorescent screens of very great advantage in photography.

I am, Sirs, yours faithfully,

JOHN MACINTYRE, M.B. Glasg., F.R.S.E.

"A RECORD OF THE INFECTIOUS DISEASES OCCURRING AMONGST 400 ADOLESCENTS DURING A PERIOD OF TWENTY-FIVE YEARS."

To the Editors of THE LANCET.

SIRS,—The profession is indebted to Dr. Clement Dukes for the data he has given as to the incidence of infectious disease among 400 boys, presumably the average population of Rugby School. Although I have no desire to discuss his figures as a whole, yet I should like to offer some general remarks upon those that deal with ophthalmia—a term which as employed by Dr. Dukes is by no means free from obscurity. So accomplished a physician need be scarcely reminded that at least three contagious eye conditions are included under that word—namely, (1) muco-purulent and (2) purulent ophthalmia, and (3) acute trachoma. According to my experience each of these is a specific malady due to a particular micro-organism and having a different meaning. Yet the writer makes no attempt in his communication to distinguish between them. Again, he employs the phrase "granular lids" without any qualification whatever. His readers are thus left in doubt whether by that expression he means mere follicular disease or the far more serious affection, trachoma, both of which in a certain sense may be said to be marked by a granular state of the conjunctiva. These ambiguities make it difficult to estimate the meaning of Dr. Dukes's figures, and appear to me to rob his communication of whatever scientific value it might otherwise possess. Apart from this looseness of expression, I gather from Dr. Dukes's paper that ophthalmia has for long been endemic in the school with which he is connected. His figures, at least, will bear no other interpretation. For example, the cases have ranged from 1 to 31 per annum, and once only, since 1874, has the malady been wholly absent. The yearly average stands at 8·52 (not at 7·16, as the writer makes it appear in Table III.). This, then, is the state of things that has prevailed for many years, "notwithstanding the greatest care, the provision of hygienic surroundings, and even of 800 cubic feet for dormitories." I feel tolerably certain that in a Poor-law school such an unfortunate condition would not be permitted to continue without repeated and vigorous protest from the Press, both lay and medical. Some of these maligned barrack schools can certainly show a better record. Take, for instance, the Central London District School, with an average population of more than 800, and compare its annual percentage of ophthalmia with that recorded by Dr. Dukes for the last five years. The figures come out as follows:—Ophthalmia among the State children: 1891, 1·87 per cent.; 1892, 1·62 per cent.; 1893, 1·12 per cent.; 1894, 0·5 per cent.; and 1895, 0·5 per cent. Among Dr. Dukes's adolescents: 1891, 6·25 per cent.; 1892, 5·25 per cent.; 1893, 7·75 per cent.; 1894, 4·25 per cent.; and 1895, 4·5 per cent. It will at once be seen that there is a considerable balance in favour of one of the very Poor-law schools concerning which Dr. Dukes remarks that its inmates "are apparently as

grossly neglected in all sanitary precautions as were our prisoners in the sixteenth century." The foregoing comparison, furthermore, takes no count of two important facts: first, that the State schools admit young children, who are notoriously more subject to ophthalmia than "adolescents"; and secondly, that many of those received are in a delicate state of health, either from heredity or upbringing. Were these two factors given their due weight the comparison instituted would tell still more in favour of the Poor-law school. Dr. Dukes lays it down that the prevalence of ophthalmia "is the surest test of unsanitary conditions where the young are concerned, especially the want of soap and water and fresh air." I am not disposed to dispute this dictum, the logical outcome of which clearly is that the hygienic state of the Central London School is better than that of the institution from which Dr. Dukes draws his figures.

I am, Sirs, yours faithfully,

SYDNEY STEPHENSON,
Ophthalmic Surgeon to the North-Eastern Hospital for Children; Surgeon to the Ophthalmic School, Hanwell, W.

Welbeck street, W., May 12th, 1896.

QUALITY OF MILK.

To the Editors of THE LANCET.

SIRS,—Medical men not infrequently give directions for infants to be fed on milk produced by *one cow*, but they seldom or never take the necessary precaution of warning parents to see that the cow selected for the purpose is *in calf*. The milk of a healthy cow that is *in calf* can be safely used at all times provided it is fed on suitable food, and a delicate infant may derive all the benefit hoped for by the daily supply of milk so produced. But it seldom happens that cows kept in urban districts are *in calf*. Town dairymen usually buy newly-calved cows and milk and fatten them simultaneously. Such cows may come in service every three weeks, and whenever they happen to be in service their milk is more or less unwholesome and may prove to be absolutely poisonous if given to a delicate infant. When an *in-calf* cow is not available it would be far better to use the mixed milk from an entire herd rather than to run the risk of having milk supplied from a cow that may have been in service at the time the milk was drawn.

I am, Sirs, your obedient servant,

ROBERT E. TURNBULL.

Claremont, Shrewsbury, May 11th, 1896.

"THE BATTLE OF THE CLUBS."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter in your issue of May 2nd signed "Sophocles" the paragraphs of which are numbered from one to seven, my reply to them shall be in the same order only referring to numbers.

No. 1. Only four Associations use the word "Aid," which is a misnomer, the Alliance has nothing to do with names but did suggest an alteration.

No. 2. Such a resolution was not submitted to the meeting and therefore could not be discussed.

No. 3. In abstract statistical reports the mode by which the Value is attained cannot be set forth, and misinferences have been drawn from them, yet this was not discussed, nor any instructions given to me respecting it. I refer "Sophocles" to THE LANCET of November 7th, 1895, in which is given "partly" how one of the most valuable of these F.S.M.A. obtained its value; namely, by money raised four months prior to opening the Institution by Entrance Fees, Bazaar, and special donations. The salaries paid the Medical Department have been and will continue to be inserted in the Alliance Reports. As medical statistics are frequently computed, and the nature of what is termed Visits, Consults, and prescriptions are of no value, difficult to understand through the modes in which they are given in Associations reports and the various manners in which different Doctors compile them, the Conference after discussion declared them unnecessary and misleading, and ordered them not to be printed in their Report. This does not effect Associations, who doubtless will in future as in the past print the work of of their Institions.

No. 4. No application was received from the medical officer of Tonbridge Wells and such advice as named was not given to the Tunbridge Wells Association.

No. 5. The Registering of the Alliance (which is unnecessary) could only give security to its funds which are small and could not effect any Association, the idea of securing greater power over the profession was never thought of.

No. 6. No such resolution was submitted or discussed nor was any such advice given to any Association about their Surgeons as named in this paragraph. The Lincoln Telegram was to its own Delegates, and altho read to the meeting no instruction was asked and none given, nor was a reply sent.

No. 7. This Appears the freest from error of any of the statements made by "Sophocles." Yes, a deputation was appointed who in due time will wait upon the General Medical Council, and should they, "The G.M.C." attach any importance to an Anonymous letter doubtless the deputation will be able to answear any query arising therefrom.

This is the firstime I have replied to an Anonymous writer, and "Sophocles" will have to sign his own name and whereabouts if he desires a further reply. Our Report is in printers' hands; copies will be sent to the G.M.C.

I am, yours faithfully,

Markham-street, York, May 11th, 1896. JOHN BROWN.

"THE BRONCHITIS KETTLE, POULTICES, AND OVER-FEEDING IN ACUTE LUNG AFFECTIONS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 18th Dr. de Havilland Hall, writing upon the treatment of bronchial and pulmonary diseases, deprecates in the main the use of the "bronchitis kettle" and the application of poultices generally, but extols in lieu the use of "Gamgee tissue or cotton wool upon which is sprinkled some stimulating liniment." Some fifteen years since or more I read a letter in THE LANCET by a medical man advocating the application of olive oil to the chest and between the shoulders in all chest complaints of an inflammatory nature, the patient to be also enveloped in a jacket of cotton wool. I have adopted this practice ever since and have been delighted with its results. Especially have I been pleased with this form of treatment among children of all ages, and so satisfied have many of my patients also been with it that they often make use of the olive oil and cotton wool before—or instead of, alas!—sending for me.

I am, Sirs, yours faithfully,

Putney, S.W., May 12th, 1896. J. FFRENCH BLAKE.

THE EVOLUTION OF THE SURGICAL TREATMENT OF THE BROAD LIGAMENT PEDICLE.

To the Editors of THE LANCET.

SIRS,—Mr. Lawson Tait has done good service to the literature of this important subject by his paper in THE LANCET of May 16th, in drawing attention to the superiority of the actual cautery in the intra-peritoneal treatment of the stump. He also rightly insists that, to be effectual, the stump must be thoroughly "cooked" and not merely seared. I find, on reference to my books, that I followed this method at the Hospital for Women in 1873, and I suppose I afterwards took to using the intra-peritoneal ligature as being more rapid. Finding that the petroleum cautery often did not do more than sear the stump, and that there was consequently a risk of oozing, I had made an oblong block of iron, and this being thoroughly heated in a fire was applied to the stump above the cautery clamp, so that the heat being conveyed to the steel flanges of the clamp thoroughly cooked the stump and reduced the risk of hæmorrhage to a minimum. While Mr. Lawson Tait's ingenious electric cautery clamp promises to be most effectual, yet in ordinary practice the slightly complicated apparatus might militate against its universal adoption. I am, Sirs, yours faithfully,

Harley-street, W., May 18th, 1896. HEYWOOD SMITH.

To the Editors of THE LANCET.

SIRS,—Absence from home prevented me sending you revised proof in time, correcting a few mistakes and making the additional statement that we have now applied the instrument to seventeen pedicles with uniform success. The first two were cases operated on by my late assistant, Dr. Howard Morgan of Brisbane. The last case was one where

the pedicle was so rotten that no ligature could have held, as everything tore on the slightest tension. The hæmostat completely shrivelled the pedicle and the patient is now (sixth day) quite well.—I am, Sirs, yours faithfully,

Birmingham, May 18th, 1896. LAWSON TAIT.

*** The makers of the new hæmostat are Messrs. Philip Harris and Co. of 144 and 146, Edmund-street, Birmingham.

"MATERNAL SYPHILIS."

To the Editors of THE LANCET.

SIRS,—It appears to me that Dr. Coutts's own statement in his first lecture is in favour of the possibility of maternal syphilis in every case, as well as in favour of the view that immunity to syphilis is the equivalent of the acquisition of the complaint itself. Both these views Dr. Coutts takes exception to in his letter of May 9th. The statement I refer to is: "There are other inherent difficulties in the way of estimating the paternal influence as regards the frequency of transmission of syphilis and its severity in the infant. One such difficulty lies in the fact that the mother may possibly have been affected in the ordinary manner although she may exhibit no signs of the disease, and then it becomes a matter of impossibility to rightly assign to either parent his or her due share in the production of the complaint." In my letter of April 18th I ventured to suggest that syphilis or its sequelæ was more prevalent in parous women than children's hospitals seem to indicate. Dr. Coutts in his first lecture stated that "a very large proportion of the mothers of syphilitic infants exhibit no outward evidence of the complaint even after prolonged and careful search." In his letter of May 9th he states his impression is that "mothers who are apparently free outnumber those where she is obviously syphilitic by three or four to one." If it can be shown that immunity is only apparent and not real, another argument, I think, must be conceded to primary syphilisation and maternal syphilis, especially if we bear in mind Dr. Coutts's disbelief in "syphilis by conception." I did not intend to give the impression of any dogmatic view. I thought I was careful to say I had no complete or comparative statistics, but that I had collected cases of syphilis in parous women in whom no history of previous illness could be obtained. I shall hope before long to bring forward the cases on which my letter of April 18th was founded, and I hope the experience of others will then be elicited. In the meantime I gladly admit with Diday that "nothing is constant in syphilis." The truth of such a remark is emphasised in these days when fixed belief in the absoluteness of Colles' observations and in the contagious character of hereditary syphilis is being shaken.

I am, Sirs, yours faithfully,

JOHN A. SHAW-MACKENZIE.

Savile-row, W., May 11th, 1896.

FOUNDATION OF A JENNER MEMORIAL MEDAL.

To the Editors of THE LANCET.

SIRS,—At the annual meeting of the Epidemiological Society of London, which was held at the address given below on May 15th, it was unanimously resolved, having regard to the historical connexion of the society with vaccination and other preventive measures, to found a medal in memory of Edward Jenner on this the centenary celebration of a discovery which has been attended with such brilliant results in the direction of preventive inoculation. It is proposed that the medal shall be founded with a view to the promotion of epidemiological research, and that it shall be bestowed from time to time by this society on persons who shall have contributed to the knowledge of preventive medicine. It is felt that in the foundation of a memorial of this character the members of the medical profession should be afforded an opportunity of taking part. Donations (not exceeding one guinea) may be sent to the honorary treasurer, 6, Hereford-mansions, Bayswater, W., and a list of donors to the fund will be issued in due course.

We are, Sirs, your obedient servants,

SHIRLEY F. MURPHY, President.
R. D. R. SWEETING, Treasurer.
H. TIMBRELL BULSTRODE, Hon. Secretary.

11, Chandos-street, Cavendish-square, W., May 18th, 1896.

"DECIDUOMA MALIGNUM."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 16th I am reported as having in all seriousness suggested to the Obstetrical Society at their last meeting the adoption of the terms "syncytioma" and "trophoblastoma" instead of "deciduoma malignum." It will hardly be necessary for me to state that the suggestion was playfully offered to those who seek a pleasure in discovering old diseases under new names. I am satisfied with the terms in general use and find no necessity for new ones.

I am, Sirs, yours faithfully,

St. John's Wood, May 19th, 1896. A. A. KANTHACK.

"THE ARMY MEDICAL STAFF."

To the Editors of THE LANCET.

SIRS,—In the number of THE LANCET dated May 16th "An Old Subaltern," who dates his experience from forty years ago, most favourably contrasts the position of the officers of the Army Medical Department of that date with the somewhat degraded position which they now hold. Your present correspondent can date back not only forty years but fifty-seven years ago, commencing from 1839, and during nine years he was first assistant surgeon of the 71st Highland Light Infantry and finally surgeon of another distinguished Scotch regiment, and can quite confirm what "An Old Subaltern" says. Were I again a young man, with or without means, nothing would induce me to enter the Army Medical Department as now constituted, knowing as I do what it was in former times. Permit me briefly to state what changes I would make in the Department were I in authority. First and foremost, I would restore the old regimental system and a suitable staff of non-regimental officers for garrison, detachment, and extra regimental duty. Secondly, I would abolish the titles of surgeon and assistant surgeon and replace them by senior and junior medical officer. Surgery is only one branch of our profession, and in peaceful times perhaps the least prominent in the practice of the army. Thirdly, I would recommend that in the choosing of candidates for commissions those holding university degrees should be preferred, and seeing that the possession of such degrees gives precedence, according to the official reports of presentations at her Majesty's Levées, before all military rank unsupported I would abolish that most ridiculous innovation whereby the nominal titles of combatant officers are tacked on to the titles of medical officers. Never was a more senseless scheme devised and carried out, or one more liable to place medical officers in false positions in society. Let it be abolished, retaining, however, such nominal grades as will secure to medical officers, according to their rank and length of service, their proper position as to choice of quarters, allowances, and precedence in all regimental non-combatant affairs, such as those connected with mess and other matters, to the carrying out of which they contribute their shares.

I venture to send these few suggestions, being, I believe, nearly, if not, the oldest retired medical officer of her Majesty's service now in existence.

I am, Sirs, your faithfully,

May 20th, 1896. J. D. J.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Ingleby Lectures.

THE Ingleby Lectures for the present year are to be delivered on June 10th and 17th at Mason College by Mr. Priestley Smith, the subject being the Mechanism of Binocular Vision and the Causes of Strabismus.

Sudden Death after Extraction of a Tooth.

A singular termination to an apparently simple operation was the cause of a coroner's inquiry at Brierley Hill on the 16th inst. A woman had a double tooth extracted by a registered dentist; a few minutes afterwards she expired. No chloroform or drug had been used during the operation. A post-mortem examination showed that death was due to failure of the heart's action from natural causes. Had an

anæsthetic been given or any new drug tried no doubt the result might have been credited to its use. It is important to recognise the fact that death occasionally takes place when no agent of this kind is used.

Action against a Dentist.

An action was brought in the County-court on the 9th inst. by a labourer against a druggist to recover damages for injuries sustained through the extraction of a tooth. The plaintiff went to the defendant's shop where the assistant proceeded to operate upon a double tooth. Something came out, the tooth was broken, and the plaintiff protesting against the rough usage he had been subjected to consulted his club medical officer, under whose treatment he remained for five weeks subsequently, and who found that the jaw had been splintered and the tooth broken. The patient afterwards went to the hospital and several pieces of necrosed bone were removed. Evidence was given as to the competency of the druggist and as to the accident being liable to occur in skilled hands. The jury found a verdict for the defendant.

The Workhouse Scandals.

An inquiry by one of the Local Government Board inspectors was recently held at the Birmingham Workhouse into the circumstances connected with the death of two inmates. The subject has given rise to some correspondence in the local press and to a considerable amount of discussion upon the administration of the house. The inspector stated at the opening that the inquiry was not suggested by the guardians, but from the amount of expression of opinion it was thought better to have the whole matter thoroughly gone into by an inspector who could examine witnesses on oath. The inquiry was a little unusual because it arose not upon any charge made by the guardians against their officers and they had not asked for it, though they made no objection to it. His instructions were to inquire into the circumstances connected with the deaths of the two persons, not to hold a general sort of investigation. Various witnesses were called and examined. The result of the proceedings is awaited with interest.

Birmingham Will Case.

The outcome of the appeal in this case, which was dismissed on the 15th inst., has settled definitely the former verdict for the plaintiff. The case was tried by a special jury at Birmingham on March 27th. The testator died in September, 1895, and the ground on which it was sought to set the will aside was mental incapacity, in support of which evidence was brought forward to show that the testator's memory was failing, that he was of dirty habits, and that he had delusions about poverty and persecution. It was alleged that undue influence had been used and that the testator was insane. At the time of the trial a large array of expert evidence was brought to bear on either side. The issue involved a large sum of money—some £30,000—and great interest was exhibited in the course of the trial, which will probably stand as a record case.

Hospital Saturday Collections.

At West Bromwich the recent collections in aid of the District Hospital amounted for the day to £514 odd, being a considerable increase compared with last year. The Oldbury Hospital Saturday Committee in pursuit of the same cause received also £347, an increase of £30 upon last year. It is gratifying to note the augmentation of these charitable funds in the district as indicating a revival in trade and consequently increased support for the institutions in the locality.

May 19th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Trafford Park.

ACCORDING to the most recent estimate by the medical officer of health the population of Manchester is 531,697, and there is every prospect of its steady and perhaps rapid increase. For this population, a very large proportion of which is of the working class, the open spaces and parks cover altogether 311 or 312 acres—not a very extravagant provision—and on their purchase and development £306,000 have been spent. It seems that Glasgow possesses 881 acres and has spent £473,000 on purchase alone, while Liverpool has spent £783,000 on 854 acres. There is now an opportunity of acquiring the extensive area of Trafford Park, containing 1180 acres, which Sir Humphrey de Trafford wishes to sell. An idea of its extent may be given by saying that it is three times the size of Hyde Park, which has 390 acres. As the *Manchester Guardian* says: "It has lain by Manchester, secure in its seclusion, century after century"—indeed, from before the Norman Conquest; "at the western gate of the city," in the picturesque but, alas, inaccurate phraseology of another local paper, for the city has no gates. It is near the county cricket ground and one of its main entrances is just opposite that of the Botanical Gardens, while from the Central Station passengers could be set down at the park in five minutes, and easy access can also be obtained from its extensive frontage to the Ship Canal. The inner or deer park of 700 acres, in which the hall is situated, is well wooded and has a lake of some size, while the flower gardens round the hall are of rare beauty. Belts of fine timber enclosing the greater part of this inner park shut out from view the smoke of Manchester and Salford. It is believed by those who may be considered competent to judge that in a comparatively short time by the development of the "fringes" of the outer park—along the canal frontage for business and on the other side for residential purposes—the cost would soon be reduced to a penny on the rates, or even to the vanishing point, especially when it is remembered that Sir J. Harwood and the Waterworks Committee, by judicious management, were able to spend £3,000,000 on the Thirlmere scheme without adding a single penny to the city rates. There is an immense population of boys and young men in Manchester eager for out-door exercise and recreation, which they greatly need, and it becomes more and more difficult to find the necessary space. The park is the only ground sufficiently near the city where large agricultural shows could be held. The Hulme Cavalry Barracks are not far away, but the removal of the troops from Manchester on account of the want of suitable exercise ground, which the park would supply, has long been talked of; the Home Office is pressing the corporation for a review ground for the police, while one is wanted also for the Volunteers. It is estimated that the removal of the troops would entail an annual loss of £20,000. The arguments in favour of purchase are irrefutable, and were it not for the heavy responsibilities whicht he city will, for some little time at all events, have to bear in connexion with the Ship Canal the corporation would no doubt at once take steps to acquire a property which, from the public health point of view, to say nothing of the public convenience, is of such inestimable value. A meeting of the city council was held yesterday to consider this matter, and after a long discussion a resolution was carried, with a few dissentients, appointing a committee to consider the subject of the purchase of the park. If £3,000,000 could be spent for water without adding to the rates, there is not much doubt that with the special opportunities which the park gives for recoupment the £300,000 or £350,000 said to be required for its purchase would soon cease to be any addition to the burdens of the city.

Charitable Bequests.

By the will of the late Mr. Thewlis Johnson of Manchester, whose personalty is sworn at £446,304 3*s.* 10*d.* net, the Manchester Royal Infirmary, the Ancoats Hospital and Dispensary, the Derbyshire Royal Infirmary, and the Bishop of Manchester's Fund receive £500 each.

Withington Recreation Grounds.

Withington, Didsbury, and Chorlton-cum-Hardy are rapidly growing suburbs of Manchester, and there seemed a probability of their being speedily covered with bricks and mortar without any reservation of open spaces. About two years ago, however, Lord Egerton of Tatton, who is a large landowner in the district, presented the public, through the district council, with eleven acres of land to be used as recreation grounds. They are situated in convenient parts of the council's area, and with the Didsbury ground of between four and five acres in extent, which was purchased by the council for £3500, they constitute air spaces which will become increasingly valuable with the inevitable growth of the population. The Withington ground is rather more than five and a half acres, two other spaces are two acres and rather more than two and a half acres respectively, and there is another small plot. They are conveniently distributed and have been carefully laid out. No attempt has been made to convert them into public gardens, but iron railings have been placed round, trees have been planted,

and shelters erected, the present intention being to have them used as play-grounds for the young folks. The three principal grounds were formally opened by Lord Egerton on Saturday last.

The Coronership.

A special meeting of the city council was held yesterday to consider the appointment of a successor to the late Mr. Edward Herford, who has been coroner for very many years. For the last fourteen years the duties of the office have been performed by the deputy coroner, Mr. Smelt, a barrister. The state of things appears to have been somewhat anomalous. The coroner himself, being in failing health, some eighteen years ago appointed Mr. Smelt his deputy, and for fourteen years this gentleman has done the whole of the work, with, it must be acknowledged, satisfaction to the community. Mr. Herford has enjoyed the emoluments of the office with the dignity of ease and has paid Mr. Smelt by private arrangement with him. The corporation has chafed at times, but under the conditions of his appointment had no power to remove the city coroner. The election to the office is now, however, in the hands of the council, and by a local Act the corporation has the power, if it think fit, to pay the coroner by salary, as in the county, instead of by fees. The town-hall committee was instructed to consider and report as to what arrangement they would recommend as regards the office, and it was moved and carried that the appointment of coroner be postponed to the meeting on June 3rd. It was mentioned in the course of the discussion that "the average amount paid in medical fees for the last four years was £346, the average number of the inquests being 915 per year. The average sum received by the coroner during the last four years was £1220, and a total sum of £1821 16*s.* 10*d.* had been distributed on an average in each of the last fifteen years in coroner's fees and other expenses."

Manchester Medico-Ethical Association.

The Manchester Medico-Ethical Association devoted the last meeting to a discussion on the Registration of Nurses. The members present at the meeting—a large one—took a considerable amount of interest in the question, and after an animated discussion the following resolution was passed unanimously: "That any scheme for the legal registration of all nurses with a common standard of education is inimical to the interests of the public, the general body of nurses, and the medical profession, and that this meeting requests the committee to take steps to oppose any such scheme."

May 19th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Unqualified Medical Practice in the County of Durham and Some of its Results.

IN the very able report of the medical officer of health of the county of Durham Dr. Hill pointedly directs the attention of the county council to the number of uncertified deaths in the county palatine during the year 1895. The districts in which the practice is most prevalent are Spennymoor, Blaydon, Hetton, and portions of Chester-le-Street. It is due to the circumstance that so large a proportion of the medical practice is in the hands of unqualified persons. In Spennymoor last year 33 per cent. of the deaths were uncertified as the result of unqualified medical practice. Dr. Hill shows conclusively that this practice by unqualified men has a vicious effect upon the public health. "The proportion of deaths under one year and under five years to total deaths has been among those certified by registered medical practitioners only 34·4, and 49·1 per cent. respectively; the proportions among those deaths uncertified as a result of unqualified medical attendance were as high as 50·0 and 68·0 per cent. respectively. This excessive proportion of infant deaths in the practice of unqualified men is noticeable in all the districts where such practice prevails, so that it is certainly suggestive that many children die whose lives might have been saved had they received skilled medical attention." The object of the Infectious Diseases Notification Act is also defeated to a considerable extent by unqualified practitioners, for unqualified men are under no obligation to notify cases of infectious disease under the Act, and should they do so they are not entitled to any payment, consequently cases of infectious disease attended by these men are not reported to the sanitary authority. It is not creditable to the county that the percentage of uncertified deaths in it is twice as high as that for England and Wales. It ought not to be. It is the duty of the Durham County Council to bring the facts reported to them by Dr. Hill to the notice of the Local Government Board and of the General Medical Council, and to use its utmost endeavour to have a condition so disgraceful checked and put a stop to.

Labour Dispute on the North-East Coast.

Owing to a misunderstanding as to the interpretation of an agreement about wages a dispute has arisen between the men and the masters, and without any adequate attempt being made to arrange matters the men at Stockton-upon-Tees have recklessly struck work. In reply the masters on the Tees, Wear, and Tyne have given notice to 25 per cent. of the engineers to cease work in a fortnight. The men have now given power to their executive to bring out the 75 per cent. to whom notice has not yet been given by the masters. The masters propose arbitration. The men reply that their case is so good that arbitration is not necessary. The dispute involves only a matter of 6*d.* a week to 135 men—some £3 4*s.* a week—and for this paltry sum of money the whole district is not unlikely to be plunged into trouble, trade disorganised, and angry feelings excited, which will leave behind bitter feelings of clan animosity. How long, it is to be wondered, will this stupid, wicked system of settling disputes between capital and labour be tolerated? Mr. Knight, the able secretary of the Boiler-makers and Iron Shipbuilders Society, speaking upon the subject on a public occasion last November, expressed himself in the following terms: "I feel so strongly on this matter [strikes] that I would say without hesitation that if better means of settling differences cannot be obtained than by an awful strike I would advocate going to Government to pass a law to compel societies to adjust their differences by arbitration. As a last resort I would absolutely make arbitration compulsory." As a matter of fact, strikes and lock-outs are rare in the trades over which Mr. Knight has influence, and it is very much to be regretted that the affairs of the engineers are not managed in an equally judicious manner.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University.

AT a special meeting of the senatus of Edinburgh University the degree of LL.D. was conferred upon Sir J. Russell Reynolds by the Vice-Chancellor *in absentiâ*, and the usual diploma was forwarded to the recipient of the honour. The University field at Colinton Road is to be formally opened on Friday afternoon. His Grace the Lord High Commissioner, accompanied by the Marchioness of Tweeddale, is to take the leading part in the opening ceremony, after which there is to be a cricket match between the staff of the Royal Infirmary and the University eleven.

Death of Two Eminent Edinburgh Men.

Last week the death was recorded of two men eminent in different spheres of life who had studied and qualified at Edinburgh. The one was the Hon. Thomas Christie Smart, F.R.C.S. Edin., who died at Hobart, Tasmania. He was not only a prominent practitioner, but filled the mayoral chair and was elected to the Legislative Council. He was a public-spirited man, taking an active share in public work of various kinds. For eighteen years he was chairman of the Board of Management of the Hobart General Hospital, and did much to effect its efficient management. The other was Dr. Moxey, who died in Paris on his return journey from the Holy Land. He was a graduate in medicine of Edinburgh University and a Member of the Royal College of Physicians of London. In his early years he practised in England, but abandoned practice for elocution, and in that department was well known as Leo Ross. About eighteen years ago he came under the influence of evangelical teaching, and since that time has taken a part in evangelical work in Edinburgh and elsewhere. At several of the theological colleges in the country he held the position of lecturer on elocution. His death was quite unexpected and came as a great blow to his numerous friends in Scotland.

Dr. G. Hunter Mackenzie, Edinburgh, has been elected a Corresponding Member of the Société Française d'Otologie, de Laryngologie, et de Rhinologie.

May 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

"Cyclopia."

THERE are two annual events in Dublin which have of late years assumed much prominence; one is the Horse Show, which, for an exhibition of its kind, is now unrivalled in Europe, and the other the May Carnival, Bazaar, or *fête* in connexion with the hospitals and medical charitable institutions. Both are held in the spacious grounds and buildings of the Royal Dublin Society at Ball's-bridge—a fact to which they certainly owe a large amount of their success. His Excellency the Lord Lieutenant for the time being is, as a matter of course, present. Lord Cadogan has recently shown a specially active interest in both undertakings, having received an influential deputation in connexion with horse breeding yesterday, while he has this afternoon (the 18th inst.) performed the inauguration ceremony at the formal opening of "Cyclopia," the monster bazaar in aid of the funds of the National Eye and Ear Infirmary. The hospitals of Dublin have benefited by such bazaars to the extent of many thousands of pounds, while some of the members of the medical staffs and committees have acquired wonderful skill in stimulating the generosity of the public. The first of the series of charitable carnivals was the memorable Masonic *fête*, which, besides being in itself a great success, served to rouse and excite the public taste for such displays. There is every reason to anticipate that "Cyclopia," which has just been opened, will outrival all its predecessors, for no trouble or expense has been spared towards that end. The preparations were begun more than a year ago and the attention of the public was first caught by advertisements in the daily journals of a competition and reward offered for the best suggestion as to a name for the coming festival. The title "Cyclopia" was then chosen from no less than 129 suggestions. Then came a poster competition with prizes of £10, the posters to become the property of the Bazaar Committee. These prize posters, of large dimensions, have been familiar to the streets here for many weeks. Moreover, the work on the committee was not, of course, confined to Dublin; ladies of social position and influence in each of the counties of Ireland were asked to become patronesses of stalls named after each county. The railway companies were induced to run excursions from all parts of Ireland. The prospects of this monster bazaar are good in every respect, but the entertainment is to a large extent an open-air one. There is, therefore, one matter which no skilled secretary can foresee—the Irish weather. During the next week it will go far to make or mar the success of the enterprise, and will certainly affect to the extent of several thousands of pounds the funds of the National Eye and Ear Infirmary.

Queen's College, Belfast.

The new lectureship on Ophthalmology has been filled by the appointment of Dr. W. A. McKeown, surgeon to the Ulster Eye, Ear, and Throat Hospital, a former distinguished student of the college. He is to give a three months' course of lectures during the winter session. The new pathological laboratory is practically finished, and Dr. Lorrain Smith has commenced a post-graduate course on Bacteriology, which is being well attended. The Dunville Trustees, who founded the chair of Physiology, have made a grant of £100 towards the fitting up of the new physiological laboratary. The arrangements for the new lectureship on Hygiene and Public Health are not quite completed, but the duties will probably be discharged by the professor of Chemistry and the public officer of health of the city of Belfast. It is also contemplated to establish a special course for those graduates who wish to read for the sanitary diploma of the Royal University. In addition to the Professor of Chemistry and the Public Officer of Health special courses will be given by the Professor of Geology and the Lecturer on Bacteriology. It was felt to be a distinct want that hitherto men preparing for this diploma could not get the necessary lectures and teaching in Belfast.

The Water-supply of Belfast.

Owing to the present dry and exceptionally hot weather 1,500,000 gallons of water extra are being used per day. Consequently the citizens have been urged to waste as little as possible, as with the continuance of this weather the stock of 208 days' supply might soon get exhausted. Some of the towns adjacent to Belfast have at present a very limited supply, and it is said that Bangor, a health resort much frequented by Belfast citizens, is in this condition.

Transfer of Lunatics rom Asylum to Workhouse at Belfast.

The everlasting question of the transfer of lunatics from the asylum to the Belfast workhouse came on again at an inquest held on May 18th in reference to the death of an old woman who was sent from the asylum on May 25th, 1895, to the lunatic department of the workhouse, where she died from exhaustion, at the age of seventy-five, on May 16th. This transfer of patients has been going on, it seems, for a period of fourteen years. The coroner having condemned very strongly the present system of transferring patients, the jury returned a verdict in which they condemned the system at present pursued of transferring patients from the asylum to the workhouse as being detrimental to those patients and unfair to the Belfast ratepayers; further, they stated that the transfer of the present case contributed to hastening the death of the deceased, and they requested the coroner to forward the evidence and verdict to the proper authorities. I understand that at the next meeting of the asylum governors an attempt will be made to come to some definite plan for arranging accommodation for lunatics.

The Battle of the Clubs at Cork.

Cork is threatened with the invasion of another medical club. A meeting was held last Friday in the Lecture Hall of the Young Men's Christian Association for the purpose of establishing a branch of the Independent Order of Foresters. "Dr." Oronhyateka, Supreme Chief Ranger, explained the objects of the Order, and in the course of his remarks mentioned that "he had been informed that there was a certain feeling among the physicians of Cork against the benefit society system, and that the medical men had banded themselves together with the object of trying to put down that system. Well, he believed that that matter would cure itself before very long. They had met such a feeling as that in Canada, but the Order became so strong that it was enabled to overcome any difficulty that arose, and he was sure that the same state of things would come to pass in Cork." *Nous verrons.* It is only necessary to recall the fact that some twelve months ago a very vigorous attempt was made to start a similar commercial speculation in Cork. The agent of the undertaking appeared before the medical association and explained that his company proposed insuring members, sending out touters, charging a certain sum for medical attendance and deducting a percentage to cover the cost of advertising and other expenses. Whilst impressing on the association that he was making them a splendid offer he informed them that whether they accepted it or not a project so pregnant with good for the public at large was bound to be started at once. But so chilling was the reception he got from the medical association that his beneficent designs have not so far assumed a practical shape. Despite the oratorical thunderings of "Dr." Oronhyateka his Order in Cork is destined to share a similar fate. One sentence in his speech was such a sparkling gem that it were a pity not to spread its effulgence in the medical world. "Perhaps," quoth "the doctor," "one of the greatest privileges of the Order was medical attendance practically free of charge." It is sincerely to be hoped that "Dr." Oronhyateka, imbued with the well-known American contempt for "the almighty dollar," gives his own services to the Independent Order on equally easy terms. "Do as you would wish to be done by" is a well-known saying; and as two clergymen from Belfast presided at the meeting with "the doctor," one as High Chief Ranger of Ireland and the other as High Vice-Chief Ranger, it may not be amiss to mention that there is an equally well-known text—"The labourer is worthy of his hire."

May 18th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Jenner Commemoration.

THE centenary of Jenner's first vaccination has been impressively celebrated in Berlin. Articles on his life and his work were published by all the leading medical and lay journals, the *Deutsche Medicinische Wochenschrift* having a special Jenner number devoted entirely to vaccination

matters and containing a portrait of Jenner, a biography of him by Dr. Pagel, a historical essay on Variolation by Dr. Behrend, articles on Vaccination in the German Army by Staff-Surgeon Dr. Wernicke, on the Arguments of the Anti-vaccinationists by Dr. Köhler, on Small-pox Mortality in Prussia by Dr. Heymann, and on Sterilised Instruments for Vaccination by Dr. Witte. A centennial exhibition has also been formed consisting of portraits of Jenner and other notable supporters of vaccination, of vaccination instruments past and present, of statistical tables, of anti-vaccinationist pamphlets, &c. On May 14th there was a meeting in the town hall presided over by Professor Virchow and attended by a very distinguished assembly, including the Minister of Public Instruction, the Director of the Army Medical Department, the Rector of the University, representatives of the municipal council, the medical corporations, and a large number of medical men. After Professor Virchow's inaugural address Professor Gerhardt gave an account of Jenner's work. He pointed out that while epidemic diseases, such as plague or typhoid fever, were suppressed or at least diminished by hygienic improvements small-pox, on the other hand, was subdued, not by the gradual progress of scientific knowledge, but by the genius of a single man. Jenner, it is true, had predecessors. Variolation, or inoculation with small-pox virus, which was introduced by Lady Mary Wortley Montagu, was a step in advance; but although it diminished the mortality it unfortunately propagated the disease. To understand how a country surgeon succeeded in making one of the most important discoveries of modern medicine it is necessary to bear in mind that he was so proficient a naturalist that the great explorer, Captain James Cook, when about to make the second of his voyages of discovery, offered to take Jenner with him. He was also a man of indomitable energy, which enabled him to triumph over obstacles and opposition. Those who were assembled on the present occasion for the purpose of doing honour to Jenner's memory might confidently expect that posterity a hundred years hence would not less freely acknowledge their indebtedness to his discovery. After the conclusion of Professor Gerhardt's speech addresses were delivered on behalf of the town council by Dr. Strassmann, who is a member of the council, and by Dr. Kruse, a medical member of the German Parliament; the proceedings then terminated. At the same hour the anti-vaccinationists held a meeting in commemoration of Jenner's "victims," which was opened by a funeral march, and after several speeches a resolution was passed demanding the abolition of compulsory vaccination, while anti-vaccinationist pamphlets were distributed both inside and outside the building and in the streets.

Leprosy in Eastern Prussia.

Leprosy is very rare in Germany in modern times. It seems to have disappeared since the sixteenth century, and the few cases which have been observed occurred in strangers coming from other countries where the disease was endemic. The public and the medical profession have, therefore, been much surprised to learn that in 1889 several cases of leprosy were observed in the district of Memel in Eastern Prussia, near the Russian frontier. The nearest centre of leprosy in Russia was about one hundred English miles from Memel, and contagion seemed, therefore, rather unlikely. The disease, however, slowly increased, and has recently been investigated by Dr. Blaschko, a Berlin dermatologist, who visited the district for the express purpose, and has since his return given an account of his observations at a meeting of the Berlin Medical Society. He first spoke of the hygienic condition of the population, saying that the country people are almost exclusively Lithuanians, are very ill-fed, and are in the habit of consuming an enormous quantity of spirits. Their dwellings are very small, unhealthy, and not at all ventilated; domestic animals occupy the same apartment as the family. Medical men are very seldom consulted, the population being not the least afraid of illness, and Dr. Blaschko sometimes saw sick persons sleeping in the same bed with the healthy. The leprosy cases hitherto observed in the district are twenty-two in all, nine of whom are still alive; this is not a small proportion in a population of about 16,000 persons. All the patients were Lithuanians, living in three distinct villages round the town of Memel, and have been leprous for several years; Dr. Blaschko was informed that no new cases had happened during the last two years. In no instance had the illness been communicated from husband to wife or *vice versâ*, but sometimes the children of leprous parents became affected. A hereditary influence was quite uncertain, as the children developed the disease at a somewhat advanced age. Notwithstanding the total want of isolation and cleanliness the extension of the disease is slow, the great majority of the people being apparently insusceptible. The medical men of Memel are of opinion that the disease is not due to infection, but is caused by the condition of the soil and by the food, which almost exclusively consists of fish. These causes are, however, not sufficient, as other localities where the same conditions exist are exempt. According to Dr. Blaschko the disease has been imported from Russia; for although the principal Russian centres of leprosy are somewhat distant from the frontier sporadic cases are found in nearer places which are in constant trading communication with the adjoining parts of Germany. He thinks that energetic measures should be taken to avoid the possibility of extension, and he suggests that a Government commission composed of dermatologists and hygienists should be sent to Memel in order to search for cases which may have been overlooked, while Russian immigrants should be most carefully observed. A gaol-like isolation, which was the rule in former times, is quite unnecessary, but the patients should be received in a special institution in the country where they may live apart from the healthy population. Dr. Blaschko closed his address by saying that the example of Russia, where 500 patients live in each of the provinces of Livonia and Kurland, should induce the German Government to keep a watchful eye on the endangered districts. Dr. Wassermann, of the Imperial Health Office, said that the Government intends to receive the lepers partly in the University Hospital of Königsberg, in Eastern Prussia, and partly in Professor Koch's hospital for infectious diseases in Berlin. If the malady were to become more widely spread a special hospital, as suggested by Dr. Blaschko, would be erected in the district of Memel.

May 19th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Supply of Quinine to Malarious Districts.

IN THE LANCET of Dec. 14th and 21st of last year I summarised and commented on the Bill introduced by the late Government for the supply of quinine to those malarious districts in which the chemist and druggist or the local dispensary are unknown. The present Government has adopted the Bill, with, however, what I cannot help thinking to be an unfortunate modification. Signor Boselli, its original author, was careful in the preamble of the Bill to disclaim all intention of creating in quinine, as in tobacco, a State monopoly. He was simply legislating for exceptional circumstances—the annual death in Italy of 16,000 persons from malarial fever, the existence of 4000 communes in which quinine is not to be had, and the excessive price, as well as the adulteration, of the quinine in those malarious districts where the specific is really (or nominally) on sale. At best the measure could be no other than temporary, pending the reclamation of those waste lands where malaria is endemic and the consequent stamping out of the disease. His successor in office, Signor Branca, proposes, however, to convert the sale of quinine into a source of gain to the Treasury, thus departing from the purely humanitarian and provisional view of the measure taken by Signor Boselli. A very serious complication is thus introduced. The legitimate claims of chemists and druggists were not ignored by Signor Boselli, and clauses in protection of their rights were contemplated as the Bill passed through Committee. But the creation of a monopoly in quinine, as in salt and tobacco—a monopoly, however, conceived and carried out in the interests of the Revenue—means the negation of the principle on which alone the Bill in its original form was framed and introduced. The career of the Di Rudini Ministry has already been a stormy one. It may suffer actual shipwreck on a measure which must arouse a much more uncompromising opposition than its highly contentious predecessor.

Ptomaine Poisoning from the Consumption of Fish.

This is a frequent cause of illness, sometimes of actual death, in Italy. In the November of 1894, as commented on in THE LANCET at the time, an eminent Florentine professor, his mother, and his wife died after having dined on a "cefalo" (a fish that frequents the mouths of rivers), with

all the signs of poisoning from some cadaveric alkaloid contained in the food, while the son and the cook, who had also shared the meal, narrowly escaped with their lives. Some six months afterwards here in Rome a well-to-do farmer with his wife and four children nearly died from the same cause, a prompt use of the stomach-pump being just in time to arrest the severe intestinal pains and violent retching that followed the ingestion of the unsound fish, and now, on the 14th inst., at Naples a family of three had to be removed to the Ospedale di Loreto after dining on a "mureno" (a favourite fish with the Neapolitan poor), all of them afflicted with "atrocissimi dolori viscerali" (the most excruciating abdominal pains). They are now out of danger, but pending the bacteriological investigation of the residue of the fish and of the egesta from the stomach they are supposed, like the Florentine and Roman families aforesaid, to have been the victims of ptomaine poisoning. Generally speaking, the tourist world is safe from such risks, as the hotels and *pensions* it affects are careful to supply such food as shall not repel their *clientèle*; but once let the artistic or archæological enthusiast venture out of the beaten track and dine on what is put before him at the rustic *osteria* or seaside inn and he will be fortunate if he escapes without intestinal disturbance or worse. We seldom open a newspaper without reading of "famiglie avvelenate" (families poisoned) by the consumption of food which, in spite of sanitary censorship, is bought up from butchers and fishmongers by itinerant hawkers, who vend it in suburban villages or the obscurer quarters of large towns.

Professor Andrea Verga.

On Dec. 7th last THE LANCET contained a full obituary notice of this greatest of recent Italian alienists, and at Milan on Friday, the 15th inst., in the edifice of the Società di Patrocinio pei Poveri Pazzi (Society for the Protection of the Insane Poor), a bust was unveiled to his memory. The Società (which, like many other organisations of the same kind in the Alta Italia, is his special creation) was largely represented on the occasion, while the legislature in both its branches, the municipality, the Lombard Medical School, and the *élite* of Milanese life had all their delegates at the ceremony. Below the bust—a *chef d'œuvre* of Branca—runs the following inscription from the pen of the Senator Massarani: "Ad Andrea Verga—Senatore del Regno—Intelletto serenamente profondo di molta e varia coltura nutrito—Che scrivendo ed operando irraggiò di nova luce—Gli arcani e le ambagi dell'anatomia e della pazzia—La società di patrocinio pei pazzi poveri, quella Freniatrica—amici ed ammiratori—Questo ricordo, testimonianza d'affetto, riverenti posero." (To Andrea Verga, Senator of the Kingdom, an intellect serenely profound, nurtured on extensive and varied learning, who by his precept and his practice shed new light on the obscure and intricate developments of the anatomy and pathology of mental disease, the Society for the Protection of the Insane Poor, the Phreniatric Society, as well as his friends and admirers, have with due reverence, in token of their affection, placed this memorial). The speakers (among whom Dr. Tamburini, Professor of Medico-Psychology at Modena, was present) recapitulated effectively the great services of the deceased to alienist medicine; but, as previously observed in these columns, a selection from his many masterly monographs read before scientific and clinical societies would, if republished, form a not less enduring and worthy monument to his name.

May 18th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Hungarian Millennium Exhibition.

THIS exhibition was opened on May 2nd by the King of Hungary Francis Joseph I. and the Queen Elizabeth. The sky kept cloudy in the morning, but about noon the sun came out and favoured with his genial smile the splendour of the festivities. Budapest looked very bright indeed, every house being flagged with the national red white and green tricolour and ornamented with carpets of every colour and shade. The ornaments bore the interesting character of a mixture of Western taste with Oriental luxury. Especially the broad and straight Andrassy-street, which leads to the site of the exhibition, offered a splendid view to those who were fortunate enough to secure a place on one of the balconies or a seat on one of the tribunes. The *cortége royal* driving to the opening festivities, with its shiny uniforms and brilliant national garments, was a delight to the eye, and gave a certificate of the wealth and good taste of our "upper ten thousand." The exhibition, which will be of six months' duration, is to commemorate the thousand years of the settlement of Hungarians in Europe. An early Hungarian anonymous writer stated that it was the year 889 of the era in which the Hungarians on their way from Asia had taken possession of this country. But the "Section of History" of the Hungarian Academy of Sciences found this to be an unreliable date, and after careful investigations and a long debate declared the year 896 as such, of which it can be made historically quite certain that the Hungarians were in possession of their present country under their chief, "Arpad," who is rightly considered to be the founder of Hungary.

Millennium Congress of Hygiene and Medicine.

This will be held in Budapest in September next and will bear rather a national character, as it will chiefly embrace questions dealing with the local statistics of hygiene, the dwellings of the poor, medical clubs, medical aid associations, infectious diseases, gratuitous medical aid and the like, with special reference to the wants of the country.

Anti-diphtheritic Serum in the Stefania Hospital for Children.

Professor J. Bokai has treated 402 children suffering from diphtheria with antitoxic serum of German, French, and Hungarian make respectively. He noted a mortality of 22½ per cent. In those cases which required operative measures the mortality rose to 44½ per cent., while in lighter cases it sank to 10½ per cent. Taken as a whole the mortality from diphtheria in Budapest attained in pre-antitoxic times an average of from 34 to 37 per cent., whilst in the days of serum treatment the mortality is 21 per cent. It is also to be noted that formerly only from 8·6 to 15·2 per cent. of the diseased escaped operative interference, while under serum treatment 26 per cent. of the cases did not require any operation for laryngeal obstruction. In 22 per cent. a more or less marked exanthema followed the injections, especially those which have been effected with Hungarian serum.

Obituary.

PROFESSOR GERMAIN SÉE.

OUR Paris correspondent has sent us the following obituary notice of Professor Germain Sée:—

On Wednesday, the 13th inst., there disappeared from the medical arena of Paris a well-known figure in the person of Germain Sée. Although still retaining his chair of Clinical Medicine at the Hôtel Dieu Dr. Sée has practically been *hors de combat* for the last two years, and his death, which occurred at his house in the Avenue Montaigne, was no surprise to his friends. Born on March 6th, 1818, at Ribeauvillé, in Alsace, of a Jewish stock, he pursued his preliminary education in the Lycée of Metz, and, migrating as usual to Paris, graduated as M.D. at this Faculty in 1846. Six years later he was appointed *médecin des hôpitaux*, and then began a series of extra-academical lectures on pathology which attracted great attention. In 1866 he was, thanks to the strong recommendation of the Empress Eugénie, appointed to succeed Trousseau in the chair of Therapeutics at the Faculty. As the new Professor was never a *Professeur-agrégé* his nomination raised quite a storm of protestation amongst the teaching staff of the Faculty. He was, however, elected by 13 votes out of 23; but his difficulties were not over, for the students "made it so hot" for him that the Dean had to interpose so as to allow him to continue his lectures in peace. Although unpopular his strong individuality as a teacher soon compelled respect. Unfortunately his materialistic views drew upon him the thunders of the ultramontaine party, which culminated in a stormy discussion in the Senate. This incident enabled him to pose as a martyr, and a revulsion of feeling gave him a popularity that would otherwise not have been his. In 1867 he succeeded Professor Monneret in the chair of Clinical Medicine at the Charité, and in the following

year he was elected a member of the Academy of Medicine. In the fatal year 1870 he was the chief actor in a consultation which, had his recommendations been acted upon, would most probably have had the effect of preventing the international struggle of that year. The deceased professor's version of the affair is as follows. The Emperor Napoleon being very ill, a consultation took place at the Tuileries on July 1st, 1870, the consultants being Nélaton, Ricord, Fauvel, Corvisart, and himself. Professor Sée was entrusted with the drawing up of the report, which Dr. Conneau, the Emperor's body physician, was to have had countersigned subsequently by Professor Sée's fellow-consultants. This historical document is still extant, signed only by Professor Sée, Dr. Conneau having, for reasons unknown, not followed his instructions as to the other signatures. Professor Sée's and his *confrères'* diagnosis was stone in the bladder. Dr. Conneau further omitted to communicate the contents of this report to the Empress. The report was seized, amongst other documents found by the agents of the Government of Sept. 4th, in Dr. Conneau's rooms, and published subsequently in the collection of State papers found in the Tuileries and elsewhere. It would thus appear that two and a half years before the death of the Emperor the French medical men had diagnosed the existence of a calculus, and advised direct exploration of the bladder, which only took place thirteen months later, when the deposed monarch was an exile in England. It is quite possible that had their advice been followed extraction would have been decided on and war, declared only a few days after the consultation, deferred or perhaps abandoned altogether. Professor Sée remained to the end of his days convinced that war would have been averted had this fatal secrecy not been maintained. In 1877 Professor Sée was summoned to Constantinople to attend the Sultan Mourad, but on his arrival he found the Commander of the Faithful deposed and replaced by a successor who was in no need of medical advice. As to the late Professor Sée's contributions to science, it is probable that, despite the extent and varied character of his labours, his name will be associated in history with the therapeutical applications of salicylate of sodium and antipyrin as anti-rheumatic and analgesic remedies respectively; of milk diet and later of lactose in the treatment of chronic Bright's disease; and of potassium iodide and pyridine against asthma. The following is a list of his works: "Les Effets du Seigle Ergoté sur le Cœur et la Circulation" (Thesis, 1846); "Mémoire sur la Chorée et les Maladies Nerveuses" (1850); "Leçons de Pathologie Expérimentale: du Sang et des Anémies" (1866); "Mémoire sur l'Asthme" (Dictionnaire de Jaccoud, tome i., 1866); "Diagnostic et Traitement des Maladies du Cœur" (lectures delivered at the Charité, 1874–77); "Traitement du Rheumatisme par le Salicylate de Soude" (Bulletin de l'Académie de Médecine, 1877); "Médecine Clinique" (seven volumes, the last in collaboration with Dr. Labadie-Lagrave). This encyclopædia was begun in 1884, the first tomes being on pulmonary diseases, at the head of which was placed *la phtisie bacillaire*. The 1885 volume treated of pneumonia, which was recognised as a parasitical disease. One of the succeeding volumes is on "Diet of the Healthy and the Sick." Then came a work on "Diseases of the Kidney," by Dr. Labadie-Lagrave, and finally one by Professor Sée on "Diseases of the Heart." Amongst the other publications due to the pen of this prolific writer are "Hypertrophie Cardiaque de Croissance" (Académie des Sciences, 1883); "Des Pneumonies Infectieuses et Parasitaires" (*ibid.*, 1884); "De la Dilatation Atonique de l'Estomac" (in collaboration with Dr. Mathieu, 1894); and "Epilepsie et Bromure" (1884). His works on experimental therapeutics are very numerous and comprise a Memoir on the Treatment of Asthma with Potassium Iodide and Ethyl Iodide (1878); Researches on Convallaria Majalis (1882); Discourse on the Treatment of Typhoid Fever by Quinine and Large Doses of Alcohol (Académie de Médecine, 1883); Treatment of Asthma with Pyridine; On Spartein Sulphate as a Cardiac Remedy; On the Physiological action of Cinchonamine Sulphate (Institut, 1885); and Treatment of all forms of Bronchitis by Terpine (Académie de Médecine, 1885). In 1888 he contributed several papers to the Academy of Medicine on Stomach Affections (hyperchloridia, atony, &c.), and on strophanthinine. In 1889 he wrote (Bulletin de l'Académie de Médecine) on the Treatment of Diabetes by Antipyrin, and in the same year on Lactose as a Diuretic, on Iodide of Potassium in Heart Diseases, and on the Prophylaxis of Tuberculosis. In 1890 several interesting memoirs appeared: "Action de la Caféine sur les Fonctions Motrices et Respiratoires" (Sée and Lapicque), "Pouvoir Antiseptique de quelques Couleurs d'Aniline, le Chloral Antipyrine, le Pneumocoque Lancéolé dans la Pneumonie Grippale" (Académie des Sciences), "Noix de Kola, and the Usage du Cannibis Indica dans le Traitement des Névroses et des Dyspepsies Gastriques" (Académie de Médecine). Since 1890 Professor Sée had worked at a great treatise on experimental therapeutics, which he hoped to publish in conjunction with several co-workers. A few notes on nucleine had been issued, but increasing infirmities took the upper hand and his work was done. The vast range of his clinical activity may be judged of by the preceding long list. He was very strong in bibliography, and was an insatiable devourer of all foreign works bearing upon new discoveries, which he received and adopted with an open mind. Conservative medicine was abhorrent to his progressive instincts, and he warmly welcomed any innovation that promised to shed light on obscure points in pathology. Thus he did not fear to announce his belief in the bacillary origin of valvular disease of the heart. Despite his somewhat overbearing manners, his large athletic figure and strong, determined physiognomy will be missed at the Hôtel Dieu, where his clinical lectures were delivered for many years past. The funeral took place on May 18th at Montmartre, the pall-bearers being MM. Gréard (Recteur de l'Académie), Brouardel (Dean of the Faculty of Medicine), Hervieux (President of the Academy of Medicine), Roussell (Senator and Member of the Institute), Debove (Professeur Faculté de Médecine), and Lévy (Member of the Institute). Speeches were delivered by Professor Debove and Professor Landouzy the latter of whom, speaking for the Academy of Medicine, recalled the fact that the deceased learnt to read and write unaided and became the apostle of therapeutics and pathology in his native country. Professor Sée was promoted Commander of the Legion of Honour in 1880.

THOMAS CHRISTIE SMART, F.R.C.S. EDIN.,

EX-M.P. FOR HOBART, AND PRIVY COUNCILLOR, TASMANIAN GOVERNMENT.

COLONIAL papers to hand convey the regrettable news of the sudden death of the Hon. Thomas Christie Smart, F.R.C.S. Edin., at his residence, Hobart, Tasmania, on March 26th. The deceased gentleman, who was an elder brother of Dr. Andrew Smart of Edinburgh, was educated in that city, and after taking his degree he left Scotland for Australia. When he reached the Antipodes he resolved to make Tasmania his home, and for about half a century he has been one of her most honoured citizens. After acting as Government medical officer at Manx Island, Mr. Smart began practice in Hobart, where his professional skill and personal qualities speedily established him in popular favour. He was a public-spirited man and his interest in civil and political affairs was very keen. He filled the mayoral chair, and he was unanimously elected to a seat in the Legislative Council, and he became a member of the Giblin Administration. In all these capacities Mr. Smart displayed marked ability and untiring zeal. The present efficient condition of the Hobart General Hospital is mainly, if not entirely, due to his self-sacrificing efforts, he having acted as chairman for the long period of eighteen years. Mr. Smart was a typical Scotsman and a capable exponent of Scottish song and story. Warm-hearted and generous, he was a staunch friend to the poor and needy, and his death is universally deplored throughout the length and breadth of Tasmania.

HENRY O'NAGHTEN FRASER-LUCKIE, M.B. LOND.

ALL who knew Henry O'Naghten Fraser-Luckie will hear with a sense of personal loss that he died from phthisis on May 5th. The knowledge that death came as a happy release after many months of illness takes away some of the sting of sorrow. In December, 1894, he took the degree of M.B. Lond., and in March, 1895, he entered into partnership with Mr. Coomber at Fakenham in Norfolk. He had an attack of influenza about a month after starting his new practice, and a second attack before he had recovered from the first still further weakened him. A fresh cold started a pneumonic phthisis, affecting the whole of his left lung and the upper lobe of the right lung. Dr. Fraser-Luckie gave up his partnership and returned to London early in June. He gained ground for about two months, then began to get worse again, and in October went to Bordighera, but in December he developed tuberculous laryngitis. As he

was getting steadily worse he came home in February. He gradually sank and on Easter Monday developed a pneumothorax. His heart failing towards the end, he passed quietly away at 1.15 P.M. on Tuesday, May 5th. He was buried at noon in Wandsworth Cemetery on the 9th. Dr. Fraser-Luckie was educated at the International College at Isleworth. He entered St. Bartholomew's Hospital in 1884. The reasons for Dr. Fraser-Luckie's great popularity were not hard to discover. Gifted with a sunny nature, his cheery voice and merry laugh put everyone into a good temper at once. His sound common sense and powers of observation enabled him to tackle difficult problems both in his work and in his life with success. He was a sportsman of the purest type, always willing to give a beginner a hint or to do a friend a good turn. His fine physique and natural aptitude for sport made him a good football player, oarsman, swimmer, and boxer. His splendid pluck and kindly nature were very evident all through his long and trying illness. What a trial nine weary months in bed must have been to such an active man can readily be realised; but Dr. Fraser-Luckie never once complained, and when the end came he passed quietly away, leaving in the memory of his friends a blank which will never be filled.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent medical men are announced:—Dr. Finkelnburg, Extraordinary Professor of Hygiene in the University of Bonn.—Dr. F. Semal, who was President of the International Anthropological Congress at Brussels.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination in Anatomy and Physiology for the diploma of Fellow on Wednesday, May 13th:—

Ramon Horace Castellote, M.R.C.S. Eng., L.R.C.P. Lond., University College, London; Francis James Steward, M.R.C.S. Eng., L.R.C.P. Lond., Guy's Hospital; Vaughan Pendred, M.R.C.S. Eng., L.R.C.P. Lond., Durham University and Guy's Hospital; Edwin Claude Taylor, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and Guy's Hospital; Neville Reginald Howse, M.R.C.S. Eng., L.R.C.P. Lond., London Hospital; Edward Hugh Edwards Stack, M.B., B.C. Camb., M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital; Wallace Charles George Ashdowne, M.R.C.S. Eng., L.R.C.P. Lond., St. Mary's Hospital; and Arthur Ferguson MacCallan, Cambridge University and St. Mary's Hospital.

Eight gentlemen were referred back to their professional studies for six months.

Thursday, May 14th:—

Herbert Edwin Harris, M.B. Camb., M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital; William Henry Quicke, M.D. Brux., M.R.C.S. Eng., L.S.A. Lond., Surgeon-Major I.M.S., Westminster Hospital and King's College, London; Arthur Ruscombe Crane Parsons, King's College, London; John Alfred Barnes, St. Thomas's Hospital; Thomas Percival Barry, Guy's Hospital; Cyprian Royston Pike, London Hospital; and Ernest Edward Glynn, Cambridge University.

Nine gentlemen were referred back to their professional studies for six months.

Friday, May 15th:—

George Thomas James, M.R.C.S. Eng., L.R.C.P. Lond., Westminster Hospital; William Layard Griffiths, University College, London; George Heywood Herbert, London Hospital; Edred Moss Corner, Cambridge University and St. Thomas's Hospital; Alfred Henry Gudson, Cambridge University, Owens College, Manchester, and Guy's Hospital; Leonard Hugh McGavin, Guy's Hospital; and Sidney Maynard Smith, St. Mary's Hospital.

Nine gentlemen were referred back to their professional studies for six months.

Monday, May 18th:—

Arthur Robinson, M.B. Edin., M.R.C.S. Eng., Edinburgh University; Francis Barclay Willmer Phillips, M.B. Oxon., M.R.C.S. Eng., Philip Northcott Vellacott, M.R.C.S. Eng., L.R.C.P. Lond., Shaik Abdur Ruzzark, and Walter Henry Maxwell Telling, Guy's Hospital; Harold Shuttleworth Barwell, St. George's Hospital; Hugh Fitz Neville Hine, Middlesex Hospital; Frank Cole Madden, M.B. Melb., Melbourne University and St. Mary's Hospital; Arthur Martin-Leake, University College, London; and Irwin Walter William Hunter, Otago University, New Zealand, and London Hospital.

Ten gentlemen were referred back to their professional studies for six months.

Tuesday, May 19th:—

Frederic Victor Milward, M.B., B.C. Camb., M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital; Michishige Takayasu, M.R.C.S. Eng., L.R.C.P. Lond., St. Thomas's Hospital; John William Geary Grant, M.R.C.S. Eng., L.R.C.P. Lond., St. Thomas's Hospital and Newcastle-on-Tyne College of Medicine; and Frederick Edward Walker, Guy's Hospital.

Eleven gentlemen were referred back to their professional studies for six months. One hundred and nineteen gentlemen presented themselves for this examination, of whom forty-nine passed and seventy were referred.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.—The annual general meeting of this society will be held on Monday, June 1st, at 8 P.M., when, in addition to the usual business, Dr. Washbourn will read a paper on "Some Points in Connexion with the Bacteria of the Mouth," to be illustrated with lantern slides.

THE CITY OF LONDON TRUSS SOCIETY.—The eighty-ninth yearly dinner in aid of the funds of the City of London Truss Society was held on Tuesday evening last at the Albion Tavern, Aldersgate-street, under the presidency of the treasurer, Mr. John Norbury. The chairman, in proposing the toast of the evening, dwelt at length on the objects of the society, and announced donations to the amount of nearly £735.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Henry R. Powell, L.R.C.P., L.R.C.S. Edin., has been presented by the members of the Anfield Conservative Club, Liverpool, with an illuminated address and portrait as a token of their esteem and for his valuable services to the club.—On leaving Warwick Dr. Guthrie Rankin was recently presented by his numerous friends and patients with an artistically designed pair of silver candelabra and other pieces of silver plate, besides many valuable presents from individual patients. He was also entertained at a farewell dinner by the members and friends of the Warwickshire Burns Club, presided over by Dr. George Wilson, and on that occasion was presented with a handsome album containing an illuminated address and numerous photographs of the other presidents and friends of the club.—Mr. Fox T. Jackson, L.R.C.P. Lond., M.R.C.S. Eng., has been the recipient from members of the Huyton section of the St. John Ambulance Association, Liverpool Brigade, of a clinical thermometer in a silver case.

CLINICAL SOCIETY OF LONDON.—The annual meeting will be held this (Friday) evening at 8.30 P.M. The following is a list of the officers and members of Council recommended by the Council for election for the year 1896-7:—President: Thomas Buzzard. Vice-Presidents: Thomas Barlow, Frederick Taylor, Thomas T. Whipham, William Henry Bennett, Rickman John Godlee, and William J. Walsham. Treasurer: William Miller Ord. Council: W. H. Allchin, W. P. Herringham, Constantine Holman, Patrick Manson, Sidney Martin, F. W. Mott, F. G. Penrose, Seymour J. Sharkey, E. Markham Skerritt, W. Hale White, Dawson Williams, W. Bruce Clarke, A. Pearce Gould, C. R. B. Keetley, C. B. Lockwood, Rushton Parker, Bilton Pollard, A. Q. Silcock, W. G. Spencer, and J. Bland Sutton. Honorary Secretaries: G. H. Makins and J. Kingston Fowler. Trustees: Christopher Heath, William Miller Ord, and J. Burdon Sanderson.

THE WHITSUNTIDE HOLIDAYS.—Great Eastern Railway.—Whitsuntide on the Continent.—For the holidays cheap return tickets will be issued to Scheveningen (the Dutch Brighton) *viâ* Harwich and the Hook of Holland. Passengers will leave London or the northern and midland counties on Friday, May 22nd, and crossing by a special steamer will reach Scheveningen in time for breakfast next morning. These tickets will be available to return any day up to and including May 30th. Return tickets at single fares will be issued to Berlin for the Exhibition on May 22nd. Cheap tickets will also be issued to Budapest for the Millennial Exhibition. Short Belgian tours, including Brussels (for Waterloo), the Ardennes, and the picturesque Flemish cities, have been arranged *viâ* the Harwich-Antwerp route.—The General Steam Navigation Company's fast passenger steamers *Peregrine* and *Seamew* will leave Harwich on May 20th and 23rd for Hamburg, returning May 24th and 27th.—The London and North-Western Company announce that the ticket offices at Euston, Broad-street, Kensington, and Willesden Junction will be open throughout the day until Whit-Monday, May 25th, so that passengers wishing to obtain tickets for any destination on the London and North-Western Railway can do so at any time of the day prior to the starting of the trains.

ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this society was held on Wednesday evening, the 20th inst., at the Institution of Civil Engineers, Great George-street, Westminster, Mr. E. Mawley, F.R.H.S., President, in the chair. An interesting collection of photographs of clouds sent to the society by Mr. H. C. Russell, F.R.S., of the Sydney observatory, was exhibited.

A DINNER in aid of the funds of the National Orthopædic Hospital was held on May 14th in the Whitehall Rooms of the Hôtel Métropole. The President, the Duke of Marlborough, who was accompanied by the Duchess, took the chair, and in proposing the toast of the evening, "The Prosperity of the Hospital," said that a deficit of £1600 had to be cleared off. Donations to the amount of £681 were announced.

THE PHARMACEUTICAL SOCIETY.—The annual dinner of the members of the Pharmaceutical Society of Great Britain was held on Tuesday night last at the King's Hall, Holborn Restaurant, Mr. M. Carteighe, the President of the society, being in the chair. Mr. J. Harrison proposed "The Medical Profession," and Mr. Christopher Heath, President of the Royal College of Surgeons of England, in response, acknowledged the indebtedness of the medical profession to the Pharmaceutical Society.

MUNIFICENT GIFT TO THE JENNY LIND INFIRMARY FOR SICK CHILDREN, NORWICH.—Mr. J. J. Colman has presented to the Governors of the Jenny Lind Infirmary three and a half acres of freehold land as a site for a new infirmary. The land has been purchased from the Ecclesiastical Commissioners and has been presented to the trustees of the infirmary as a memorial to the late Mrs. Colman, who always took the warmest interest in the institution. Donations for the building fund are urgently needed in order that the erection of the new hospital may be carried out forthwith.

DIPHTHERIA IN LONDON.—The data for the four-weekly period ended April 18th show a diminution in the amount of diphtheria in London, the cases notified during each period of four weeks in the present year up to the date just named having been as follows:—To Jan. 25th, 988 cases; to Feb. 22nd, 1054 cases; to March 21st, 1009 cases; and to April 18th, 785 cases. The deaths during each week of the fortnight ended with Saturday, May 2nd, were only 41 and 36 respectively. In the week ended on May 9th the fatal cases in London increased again to 41, and were 10 in excess of the corrected weekly average, including 9 residents in the parish of Islington and 3 each in Hammersmith and Lambeth sanitary areas. There was only one death in an infant under one year of age, but 25 occurred in young children in the next four years of life. The admissions to hospital were 101, and the patients remaining under treatment on May 9th reached a total of 707. In Greater London the deaths registered were as many as 14, and no fewer than 9 of these belonged to the West Ham district.

THE ROYAL SOUTH HANTS INFIRMARY.—If any reason were needed to prove the necessity for the scheme which the governors of this infirmary at Southampton have in hand, it is afforded by a resolution recently passed by the medical staff and which was read at a public meeting on May 14th. The staff wished to record their "opinion that for many years past numerous outbreaks of preventable disease had occurred among the patients, and more especially among the resident staff, nurses, and servants of the institution, and that these outbreaks are directly attributable to the insanitary condition of the hospital. We are of opinion that this insanitary condition is largely due to the faulty structural arrangements of the buildings, and that nothing less than a reconstruction of the greater part of the hospital can render the institution suitable for the successful treatment of disease. It is well known that the diseases alluded to above are almost unknown in modern hospitals built in accordance with the now well-recognised principles of hospital construction." The scheme has been in hand for some time, and it is now proposed to erect additions at the rear of the present infirmary, adopting the circular system. The difficulty in remedying existing defects lies in the fact that the infirmary is of different dates and is practically a series of additions to the original nucleus. Only the large Eyre Crabbe wing is said to be thoroughly satisfactory. The cost of the amended scheme is put at £19,000, and of this, although an appeal is only just issued, the sum of about £5800 is promised.

CAMBRIDGE UNIVERSITY: EXAMINATIONS FOR MEDICAL AND SURGICAL DEGREES, EASTER TERM, 1896.—The certificates of candidates for the First and Second M.B. Examinations, accompanied by their postal addresses, must be sent to the registrary on or before Wednesday, June 3rd, for the First Parts, and on or before Friday, June 5th, for the Second Parts.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held at "Stanley's," Lavender-hill, S.W., on the 13th inst., Dr. Gilbert Richardson being in the chair. A paper was read by Dr. Amand Routh on Hæmorrhage during the Early Months of Pregnancy, which appeared in THE LANCET of May 16th. A discussion followed, in which Mr. Benjamin Duke, Dr. Caldwell Smith, Mr. John Gay, Surgeon-Major Mark Robinson, Dr. Hillstead, Mr. T. A. I. Howell, and others took part. Dr. Amand Routh having replied, a hearty vote of thanks was accorded to him for his paper.

WALSALL MEDICAL SOCIETY.—The first meeting of the members of the newly-formed Walsall Medical Society was held in the Committee Room of the Walsall and District Hospital on Friday, May 8th. There was a good attendance of members. The President (Mr. Phillips), after pointing out the immediate objects in forming the society, gave a very interesting address based upon a comparison between the Medical Directory of 1779 and that of the present year. He drew attention to the modes of treatment in vogue at that time and showed how many of these were being rediscovered and presented to us in a more modern form. After a vote of thanks the meeting terminated.

OXFORD UNIVERSITY: EXAMINATIONS FOR MEDICAL AND SURGICAL DEGREES, TRINITY TERM, 1896.—The examinations for the degree of Bachelor of Medicine will commence in the Examination Schools on Monday, June 22nd, 1896. The Secretary to the Boards of Faculties will receive the names of candidates—either by letter or from the candidates in person—at his office in the Clarendon-building, Broad-street, at any time not later than 10.30 A.M. on Monday, June 8th, 1896. The examination for the degree of Master in Surgery will commence on Monday, June 29th. The names of candidates must be sent to the Clarendon-building, Broad-street, at any time not later than 10.30 A.M. on Monday, June 15th.

THE DIFFUSION OF SMALL-POX.—For the week ending May 9th there was a clean sheet so far as regards registered deaths from small-pox in the thirty-three great towns tabulated by the Registrar-General. The small-pox admissions to hospital in London were only 5, the cases admitted in the preceding three weeks having been 4, 8, and 3 respectively, and 15 patients remained under treatment. Small-pox seems to have been recently spreading in and around Wycombe, traceable in the first instance to infection from rags brought from Gloucester. Mr. Carlile, M.P., has given notice of a question to be addressed to the President of the Local Government Board having reference to the matter, in which he makes mention of the occurrence of 15 cases in the district, and propounds the subject of disinfection of rags before they reach the sorters' hands. The matter of disinfection would be one of great difficulty and would also involve no small expense. With a general enforcement of the Vaccination Acts among the workers in paper mills there should be no necessity for disinfection of rags in so far as small-pox is concerned, and other diseases spread by the medium of rags seem to be few in number and such outbreaks to be of rare occurrence. As a matter of fact the Acts have been in abeyance in the Wycombe Union for some years, so that it is not only in the mills that there is danger of dissemination of small-pox when once introduced. In Gloucester there is no longer that rush for vaccination and revaccination which set in a month ago, and the guardians have been summoning some defaulters before the magistrates, but they have met with only scant success. We read of parents summoned in respect of dead children, of wrong individuals named in the summons, and of parents having had their children vaccinated prior to appearance in court, and of the guardians having omitted to direct their vaccination officer to proceed against defaulters under their seal. In the week ended May 7th the new cases of small-pox reported to the town council numbered 81, the totals in successive weeks having steadily fallen, the numbers having been 211, 201, 168, and 131

immediately prior thereto. The patients admitted to hospital were 23 and those discharged 15, whilst 16 deaths were recorded, of which 10 occurred in home-treated patients. The Registrar-General, in respect of the week ended two days later—namely, on May 9th—gives the registered deaths from the disease occurring in residents within the municipal borough as 24, and one death without the city boundary. The total cases heard of up to the end of last week amounted to 1700. The patients in hospital at the close of the week were within one or two of 300. Further cases of small-pox are reported from Heywood, where there are said to be 3000 unvaccinated children. The Clayton Hospital, near Manchester, has had to be reopened on account of the occurrence of a case of small-pox in the city.

QUEEN'S COLLEGE, BELFAST.—The following is the prize-list at the close of the winter medical session of the Medical Faculty:—Anatomy—Seniors: A. B. M'Master; Junior Division A: J. E Clements and David M'Mordie; Junior Division B: Annie H. Crawford and J. W. West. Practical Anatomy—Seniors: A. B. M'Master; Second Year: Annie H. Crawford, W. M. Hunter, and Alexandrina C. Hunter (equal); First Year: David M'Mordie and J. E. Clements. Physiology and Histology—Senior Division: R. A. L. Graham and David M'Cay; Junior Division: W. M. Hunter, Robert Hilton, and W. D. Hamil (equal). Practical Physiology and Histology—R. A. L. Graham, G. H. Grills, and A. B. M'Master. Medicine—David M'Cay and Wm. Simpson. Surgery—Second Year: O. E. M'Cutcheon, B. A., and R. W. G. Stewart; First Year: C. E. M'Dade, B.A., David M'Cay, and A. B. M'Master. Materia Medica and Therapeutics—Hugh Donnelly. Midwifery, Gynæcology, and Diseases of Children—R. W. G. Stewart, O. E. M'Cutcheon, B.A., David Fleck, and G. A. Hicks. Practical Chemistry (Arts and Medicine)—Junior Division: Eleanor R. Sproule, J. A. Smith, S S. Miskelly, and Robert Mathewson. Zoology (Arts and Medicine)—Senior: W. D. Hamill; Junior: A. G. Heron, J. C. Rankin, David M'Mordie, and A. L. Black.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Introduction of Sir William Priestley.

AT the commencement of proceedings on Thursday, May 14th, Sir William Priestley was introduced to the House on his election as the representative of Edinburgh and St. Andrews Universities by Mr. Curzon, Under Secretary of State for Foreign Affairs, and Sir John Mowbray, the member for the University of Oxford.

Pauper Aliens.

Mr. Ritchie, President of the Board of Trade, has made it known that he entertains little hope of being able to introduce a Bill dealing with the immigration of pauper aliens during the present session of Parliament.

London Water-supply.

The Bill of the Government to create a Water Board for the Metropolitan Counties passed the Committee stage in the House of Lords on Monday, May 18th, and while it was altered in very few respects it received several additions. For instance, a clause was introduced enabling county authorities to make arrangements of their own for a water supply, and on doing so to withdraw from the Water Board. This was done on the motion of the Government, while on the motion of Earl Cowper another clause was inserted providing that nothing in the Bill shall affect the right of a metropolitan county to be heard before a committee of Parliament in opposition to a Bill promoted by the Water Board.

HOUSE OF COMMONS.

MONDAY, MAY 18TH.

Court-house Accommodation.

Mr. Pickersgill asked the Secretary of State for the Home Department whether any steps had recently been taken to complete the objects of the Home Office Committee of 1887, appointed to inquire into the accommodation provided for prisoners in the court-houses of England and Wales, and how many of the places of detention in these court-houses still continue in a defective condition.—Sir Matthew White Ridley replied. It was stated in 1891 by the Home Secretary of the day, in reply to a similar question, that as a result of the action taken by the Home Office on the report of the committee the accommodation at court-houses for prisoners brought up for trial might at some 150 places be regarded as satisfactory. I am happy to be able to say that since that date a satisfactory result has been arrived at also in the majority of the forty or fifty cases in regard to which correspondence was then going on. In a very few cases the local authority has failed to comply with the requirements of the Secretary of State, and in default of fresh legislation I am unable to compel them. I may add that the matter is one to which attention is paid by the inspectors of prisons and prison governors, who report annually and call attention to any defect requiring remedy.

Registration in Belfast.

Mr. Gerald Balfour said, in reply to Mr. Young, that the Registrar-General had again carefully considered the question of the sufficiency of the existing arrangements for the registration of births and deaths and he had suggested to him (Mr. Balfour) the desirability of holding a public inquiry at which all persons locally interested might appear either personally or by solicitors. In this way the facts could be more fully investigated and he had authorised the Registrar-General to hold the inquiry in Belfast as soon as could be conveniently arranged.

The New Tuberculosis Commission.

Mr. T. W. Russell, Parliamentary Secretary to the Local Government Board, announced, in reply to questions by Dr. Farquharson and Mr. Field, that he could not hold out any expectation that a measure would be brought in this year with regard to tuberculosis, but the President of the Local Government Board hoped to be able to name the Royal Commissioners and the order of their reference shortly after Whitsuntide.

The Pleuro-pneumonia Account.

Mr. Walter Long, President of the Board of Agriculture, said, in reply to a question, that the total payments out of the Cattle Pleuro-pneumonia Account for Great Britain in 1895-96 were £216,789, while the receipts were £25,000 from the Exchequer, £165,000 from the Local Taxation Account, and £27,223 from the sale of carcases, &c. The balance to the credit of the account at the end of the year 1895-96 was £887, and at the present moment it was £15,373.

TUESDAY, MAY 19TH.

Treatment of Verminous Persons.

Mr. Hazell asked the Secretary to the Local Government Board whether the local sanitary authorities and the guardians had already the power to expend money upon the gratuitous cleansing of any verminous persons who might apply to them without treating such persons as paupers or detaining them longer than was necessary for the purpose, or whether any expenditure for this object would be surcharged against the local authorities by the Government auditors.—Mr. T. W. Russell said he was advised that boards of guardians had no legal authority for the expenditure of the rates for the purposes referred to in the question and that urban and rural district councils were in the same position in this matter. With regard to the second question he could only state that it was the duty of an auditor to disallow any expenditure by a local authority whose accounts were subject to audit by him which in his opinion was illegal.

Vaccination Prosecutions.

Mr. Thomas Bayley asked the President of the Local Government Board whether he was aware that a fifth summons had been taken out against William Guest of Quinton by the Stourbridge guardians for refusing to vaccinate, and that the said William Guest had been imprisoned several times under the Vaccination Acts, and on one occasion was sentenced to hard labour contrary to law; and whether he would advise the guardians that the case came within the letter to the Evesham guardians and should not be prosecuted?—Mr. Chaplin replied: I have no reason to doubt the accuracy of the statement in the question as to the proceedings which have been instituted against William Guest for the non-vaccination of his children. I have directed that a copy of the Evesham letter should be forwarded to the guardians of the Stourbridge Union.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ALLEN, A. H., has been appointed Public Analyst for the City of Sheffield.

BOND, F. T., M.D. Lond., M.R.C.S., has been reappointed Medical Officer of Health by the Cirencester Rural District Council.

FITZSIMONS, J. B., M.D. Irel., L.R.C.S. Irel., has been appointed Medical Officer for the Hospital by the Hereford Town Council.

FRASER, A. MEARNS, M.B. Edin., D.P.H., has been appointed Port Sanitary Medical Officer and Medical Officer of Health to the Borough of Portsmouth, vice Dr. Mumby, resigned.

FREER, E. LUKE, M.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Birmingham Royal Orthopædic and Spinal Hospital.

GARSTANG, T. W. H., M.R.C.S., has been appointed Medical Officer of Health by the Winsford Urban District Council.

GREEN, JOHN, M.R.C.S., has been reappointed Medical Officer of Health by the Heath Town Urban District Council.

HARRIS, F. W., has been appointed Public Analyst for Burnley.

HITCHCOCK, JAS., M.B., C.M. Aberd., has been appointed Medical Officer for the Fochabers Ward by the Bellie Parish Council.

IRONSIDE, S. C., M.B., C.M. Aberd., has been appointed Medical Officer for the No. 1 Bellie Ward by the Bellie Parish Council.

JOHNSON, J. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the King's Sutton Sanitary District of the Brackley Union.

JUCKES, F. A., M.B., C.M. Edin., has been appointed Medical Officer for Horsham.

KAYE, J. R., M.B., C.M. Glasg., D.P.H. Camb., F.C.S., has been appointed Medical Officer of Health for the West Riding, Yorkshire.

KNOWSLEY, SIBLEY W., M.A., M.D Camb., M.R.C.P., has been appointed Medical Examiner to the New General Life Insurance Company.

KNOX, J. J., M.B., M.C. Camb., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer by the East and West Molesey District Council.

MACGREGOR, D. A., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Denby and Cumberworth Urban District Council.

MERSON, A. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Parochial Medical Officer by the Aberdour Parish Council.

MEYER, W. R., L.S.A., has been appointed Medical Officer for the fourth Sanitary District of the Cuckfield Union.

MORGAN, THOS., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Parishes of Forden, Llandyssil, and Llanmerewig.

MORTIS, H. B., L.R.C.P. Lond., L.S.A., has been appointed Medical Officer for the Fifth Sanitary District by the Oswestry Incorporation.

MOSSOP, A. G., L.R.C.P., L.R.C.S. Irel., M.R.C.S., has been reappointed Medical Officer for the Port of Newhaven.

NICOLL, J. MACD., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Jarrow Town Council.

PELLY, H. N., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been re-appointed Medical Officer for the Stewkley District of the Winslow Union.

PRIDEAUX, C. S., L.D.S. R.C.S., has been appointed Honorary Surgeon Dentist to the Dorset County Hospital.

RIDLEY, N. C., M.B. Lond., F.R.C.S., L.R.C.P., R.N. (retired), has been appointed Honorary Ophthalmic Surgeon to the Leicester Infirmary, vice Frank H. Hodges, deceased.

ROBERTS, LLEWELYN, M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Caersws Workhouse.

SAUNDERS, A. L., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First South-Eastern Sanitary District of the Freebridge Lynn Union.

STEVENS, T. G., M.D. Lond., M.R.C.P., F.R.C.S., has been appointed Obstetric Physician to the Surrey Dispensary.

STRITCH, G. S. R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Tudhoe Sanitary District of the Durham Union.

THOMPSON, A., M.D. St. And., M.R.C.S., has been reappointed Medical Officer of Health by the Grange Urban District Council.

WOOLLCOMBE, W. L., F.R.C.S.E., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior Honorary Surgeon to the South Devon and East Cornwall Hospital, Plymouth, vice the late Wm. Squire.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD GENERAL INFIRMARY AND FEVER HOSPITAL.—House Surgeon for one year. Salary £100 a year, with apartments, board, lodging, and washing.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BUCKS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer, unmarried, at the Asylum at Stone, near Aylesbury. Salary £100 per annum, with board and furnished apartments in the Asylum. Applications to the Clerk, County Hall, Aylesbury.

CHARING-CROSS HOSPITAL, London.—Surgical Registrar. Salary £40 per annum.

CITY OF BIRMINGHAM.—Medical Superintendent for the City Hospital for Infectious Diseases, Little Bromwich, Birmingham, unmarried. Salary £200 per annum, rising by £20 per annum to £300 per annum, with apartments, rations, and attendance. Applications to the Town Clerk, Council House, Birmingham.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

DUNDEE INFIRMARY.—Resident Clinical Assistant. Board, lodging, and washing provided.

GOVAN DISTRICT LUNACY BOARD.—Assistant (unmarried) to the Medical Superintendent for the Asylum at Hawkhead, near Paisley. Salary £100, with board and apartments. Applications to the Clerk, 7, Carlton-place, Glasgow.

HAVERSTOCK-HILL AND MALDEN-ROAD PROVIDENT DISPENSARY, 132, Malden-road, N.W.—Two Medical Officers.

HOSPITAL FOR WOMEN, Soho-square, London.—Assistant House Physician, for three months (non-resident).

LAMBETH WORKHOUSE.—Assistant Medical Officer and Dispenser for the Workhouse, Renfrew-road, Lower Kennington-lane, and other specified duties. Salary £100 per year, rising after two years' service to a maximum of £125 per year, with board, apartments, and washing at the Renfrew-road Workhouse.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrar. Salary £100 per annum. Also Assistant Physician.

LONDON LOCK HOSPITAL, Harrow road, W.—House Surgeon to the Female Hospital. Salary £50 per annum, with board, lodging, and washing.

LOWESTOFT HOSPITAL.—Dispenser. Salary 50 guineas and a fortnight's holiday each year. Applications to Mr. J. E. Cook, 30, High-street, Lowestoft.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham-hill-road.—Honorary Assistant Physician.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer, unmarried, at the Fountain Fever Hospital, Lower Tooting, S.W. Salary £160 for the first year, £180 for the second year, and £200 for the third and subsequent years of service, with board, lodging, attendance, and washing.

MIDDLESEX HOSPITAL, W.—Assistant Surgeon.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch, N.E.—Physician to Out-patients. Applications to the Secretary, Office, 27, Clement's-lane, E.C.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch, N.E.—House Physician for six months. Salary at the rate of £80 per annum. Also Junior House Physician for six months. Board, lodging, and washing provided. Applications to the Secretary at the City Office, 27, Clement's-lane, Lombard-street, E.C.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Surgeon to Out-patients. Also Physician to Out-patients.

PAISLEY INFIRMARY AND FEVER HOSPITAL.—House Surgeon. Salary £60, with bed and board.

PARISH OF CREICH (Sutherland).—Resident Medical Officer and Vaccinator. Salary as Medical Officer, to include medicines, £45 per annum; as Vaccinator, the statutory fees, with an allowance of £5 per year on certain conditions. Applications to Inspector of Poor, Bonar Bridge, Sutherland.

PARISH OF KINCARDINE, Ross.—Resident Medical Officer and Vaccinator. Salary as Medical Officer, to include medicines, £42 10s. per annum, as Vaccinator the statutory fees, with an allowance of £5 per year, on certain conditions. Applications to the Chairman of the Parish Council, Ardgay, Ross.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at the rate of £60 per annum, with board and residence.

ROYAL BERKSHIRE HOSPITAL, Reading.—Assistant Medical Officer for six months. Board, lodging, and washing provided, and an honorarium of 10 guineas awarded if the duties have been satisfactorily performed.

ROYAL EYE HOSPITAL, Southwark, or Royal South London Ophthalmic Hospital.—Honorary Surgeons and Assistant Surgeons.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London, E.C.—House Physician, for six months. Salary at the rate of £40 per annum, with board, lodging, and laundry.

STAMFORD-HILL, STOKE NEWINGTON, CLAPTON, &c., DISPENSARY, 189, High-street, Stoke Newington, N.—Junior Resident Medical Officer. Salary at the rate of £50 per annum for the first quarter, afterwards at the rate of £75 per annum, with board and lodging.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon, for six months. Board and residence and an honorarium of £10 after six months' satisfactory services.

SUSSEX COUNTY HOSPITAL, Brighton.—House Physician, unmarried. Salary commencing at £50 per annum, with board and residence in the Hospital, and washing.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary attached to the Hospital. Salary £80 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

APPERLY.—On May 16th, at Jesmond Lodge, Redhill, the wife of Herbert Apperly, L.D.S.R.C.S. Eng., of Chandos-street, Cavendish-square, W., of a daughter.

COLLIER.—On May 12th, at High-street, Oxford-road, Manchester, the wife of Joseph Collier, B.S., F.R.C.S., of a son.

DAY.—On May 10th, at Surrey-street, Norwich, the wife of Donald D. Day, F.R.C.S., of a daughter.

HEWER.—On May 16th, at 33, Highbury-new-park, N., the wife of J. Langton Hewer, M.D., B.S. Lond., F.R.C.S. Eng., of a son.

JONES.—On May 17th, at Ashton Old-road, Higher Openshaw, Manchester, the wife of Edwin E. Jones, Surgeon, of a son.

MARSHALL.—On May 8th, at Simla, the wife of Surgeon-Captain D. G. Marshall, of a son.

MATTHEWS.—On May 13th, at Pembroke-road, Clifton, the wife of Charles E. Matthews, M.D., M.R.C.S., of a son.

PASTEUR.—On May 14th, at Chandos-street, Cavendish-square, W., the wife of William Pasteur, M.D., of a son.

ROBINSON.—On May 16th, at 1, Upper Wimpole-street, W., the wife of Henry Betham Robinson, M.S. Lond., F.R.C.S., of a son.

WREFORD.—On May 15th, at Osborne-road, Newcastle-upon-Tyne, the wife of John Wreford, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

BARNARD—ORFORD.—On May 19th, at St. Peter's, Cranley-gardens, Richard Barnard, M.R.C.S., youngest son of the late William Barnard, of Harlow, Essex, to Jane, only daughter of the late John Orford, of Brooks Hall, Ipswich.

BRODIE—ARMSTRONG.—On May 15th, at Hove Parish Church, Charles Gordon Brodie, F.R.C.S., of Harley-street, eldest son of Frederick Brodie of Fernhill, Wootton, Isle of Wight, to Antoinette, eldest daughter of Major-General Armstrong.

THORPE—SELF.—On May 13th, at St. Mark's, Lewisham, Reginald Thorpe, M.R.C.S. Eng., L.R.C.P. Lond., of Holwood, Elmbourne-road, Tooting-common, to Clara Mary, only daughter of the late John Pearce Self, of Beckenham, Kent.

DEATHS.

GARDNER.—On May 10th, at Villa Regina, Mustapha Supérieure, Algiers, Richard Connell Gardner, L.F.P.S. Glasg., L.R.C.P. Edin., formerly of Painswick, Gloucestershire, in his 68th year.

RUMBOLL.—On May 12th, at his residence, Surrey-square, S.E., Walter Rumboll, M.R.C.S., L.S.A., aged 55.

STAPLETON.—On May 14th, at Rossye Lodge, Upper Norwood, Joseph Whitaker Stapleton, M.R.C.S., in his 82nd year.

WIMBUSH.—On April 2nd, on board the s.s. *Loanda*, at Brass, West Coast of Africa, aged 33 years, Samuel Wimbush, Surgeon to the Royal Niger Company, eldest son of the Rev. Samuel Wimbush, Rector of Terrington, Yorkshire.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 21st, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radia. in Vacuo	Maximum Temp. Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
May 15	30·08	W.	63	56	112	72	53	...	Fine
,, 16	30·20	N.	53	47	93	62	49	...	Overcast
,, 17	30·20	S.W.	59	52	102	71	51	...	Fine
,, 18	30·20	S.W.	66	59	109	77	58	...	Overcast
,, 19	30·08	N.W.	59	57	119	71	55	...	Cloudy
,, 20	29·83	N.W.	55	47	106	61	51	...	Cloudy
,, 21	30·11	N.	51	43	107	57	42	...	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Great Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.).

SATURDAY (30th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (26th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Sir Alfred B. Garrod: On the Use of Guaiacum in the Treatment of Chronic Gouty Affections, and its Value in warding off Acute Attacks.—Dr. S. West: Case of Splenic Anæmia (splenomegalic primitive), with an Account of the Disease.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (26th).—ROYAL INSTITUTION.—3 P.M. Prof. T. G. Bonney: The Building and Sculpture of Western Europe.

WEDNESDAY (27th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Dr. Beevor: Paralysis of the Soft Palate.

HOSPITAL FOR CONSUMPTION, &c. (Brompton).—4 P.M. Dr. Biss: Intra-Thoracic Aneurysm of the Aorta.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Payne: Seborrhœa.

THURSDAY (28th).—ROYAL INSTITUTION.—3 P.M. Dr. R. Munro: Lake Dwellings.

LONDON POST-GRADUATE COURSE.—Brit. Inst. of Preventive Medicine, Gt. Russell-st., W.C., 3.30 P.M., Dr. Allan Macfadyen and Mr. A. G. Foulerton: Quantitative Estimation of Albumins Present.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. T. H. Green: Clinical Lecture.

VICTORIA HOSPITAL FOR CHILDREN (Tite-street, S.W.).—4 P.M. Mr. T. Pickering Pick: On Operative Interference in Morbus Coxæ.

FRIDAY (29th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Tuberculosis and Leprosy.

ROYAL INSTITUTION.—9 P.M. Mr. A. Birrell: John Wesley: some Aspects of the Eighteenth Century.

SATURDAY (30th).—ROYAL INSTITUTION.—3 P.M. Dr. E. A. Wallis Budge: The Moral and Religious Literature of Ancient Egypt.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

"THE POISON OF THE PRIMULA."

To the Editors of THE LANCET.

SIRS,—Permit me to report a case of primula poisoning which came under my care last summer. The patient consulted me concerning an eruption on her face and hands of an eczematous nature and which I pronounced eczema. It did not yield to treatment, and I began to suspect that she might be suffering from contact with some poisonous plant—such as the poison ivy—as the eruption resembled that caused by the Rhus radicans and Virginia creeper, but was assured that such was not the case. She recovered perfectly when the cold weather came on, and she now remembers that the trouble followed handling the primula. Upon making further inquiries I am informed of three cases, all ladies, in which handling the plants causes a painful burning itching, with an eruption of small vesicles having an inflamed base, evidently more eczematous than erysipelatous in character. I am inclined to think primula poisoning rather common.

I am, Sirs, yours truly,

Port Hope, Ontario, April 23rd, 1896. J. W. CLEMESHA.

Veritas will find full information respecting the Army Medical Service in our Students' Number, published on Sept. 7th, 1895.

A MEDICAL BOTANIST.

THE following is a perfectly true story:—

A medical man was examining a rash upon a patient's back.

M.D.: "Is this rash growing?"

Patient: "Yes, of course it's growing."

M.D.: "Why do you say 'of course'?"

Patient: "'Cos it's a plant."

M.D.: "Yes, it is a plant; but how did you know that?"

Patient: "Why, they told me at the 'orspital it was a 'sycamore.'"

M.D.: "A sycamore!"

Patient: "Yes, they said as 'ow it was a 'variety of sycamore.'"

The rash was that of pityriasis versicolor.

X. Y. Z. is informed that we neither prescribe nor recommend individual practitioners. His ordinary medical attendant should be able to give him the names of medical men who make a special study of such matters.

Observer.—1. Our correspondent is right in his estimate of the part played by muscle. It is notorious that muscular power has but little to do with the force of the stroke, the pace with which the ball travels is almost entirely dependent upon the accuracy with which the stroke has been timed. 2. The family medical man would be able to decide whether the boy is too delicate to play, but cricket at public schools is a well-managed sport. The risks of catching cold or of compulsory play lasting for too long a time are very small, and we think that the boy must be very delicate or organically unfit to go to school at all if he cannot take part in the game.

Inquirer.—Dr. Barry's qualifications were obtained in Edinburgh; but the members of the Army Medical Service were not necessarily doubly qualified in those days.

NOVEL USES FOR THE "X" RAYS.

THE new photography is fast becoming a useful adjunct to every-day life and promises to be serviceable in many fields besides that of medicine. Experiments have been made in France, attended, we believe, with some success, with a view to ascertaining the contents of an infernal machine. With packages made to explode upon their being opened by the recipient the "x" rays should perform a useful *rôle*, but where the machine is timed to explode the new process will, we fear, be of little use. Among the newest uses of the "x" rays is the detection of imitation gems. From an illustrated article in *La Nature* it would appear that the new photography is likely to act the part of an important detective in this direction.

Practitioner.—The necessary competition taking place in an overcrowded profession accounts for many annoying incidents. We do not see that there has been any breach of professional etiquette.

THE MERE MALE.

To the Editors of THE LANCET.

SIRS,—Being up in London for a few days' holiday and being anxious to see as much hospital practice as possible during my stay, I thought that I should like to attend the practice of the New Hospital for Women in the Euston-road. Seeing in THE LANCET that the out-patients were attended at 2 o'clock every day I went there last Wednesday afternoon and saw the secretary, and told her that I was a medical practitioner and wished to see the out-patients. She said the hospital was conducted by female practitioners only, and no medical man could be admitted as the patients would not like it. I have visited a large number of hospitals at different times and never before been refused admission. How is it that a notice is put in the medical journals advertising the hours at which out-patients are seen and operations performed and yet it is impossible for a medical man to take advantage of it?

I am, Sirs, yours truly,

Boston, May 19th, 1896. ED. B. RECKITT, M.D.

*** The limitations laid down by the secretary to Dr. Reckitt have not been brought to our notice by the hospital. Our correspondent will probably be neither surprised nor, under the circumstances, displeased to read in our present issue that the Pathological Society of London has refused by a large majority to admit women members.—ED. L.

A. H. C.—We cannot endorse our correspondent's assignment of evil motive to the action of the late tenant. He is, we presume, in possession of information warranting him in making the assumption. It is usual for a medical man when leaving the house where his patients have been in the habit of seeing him to indicate where he may be seen for the future. The size of the notice board and the amount of details given upon it must be left to individual taste, as must also the length of time during which the board is kept up.

AT AN INQUEST.

WE extract the following paragraph from the *Daily Mail* of May 16th. Surely the coroner did not really allow this scene to take place.

> "Yesterday, during the holding of an inquest at Shoreditch, a doctor witness said he could not say the actual cause of death.—The coroner: Then go and make a post-mortem examination.—On his return the doctor said there was congestion of the lungs, but he could not say whether that or suffocation was the cause of death.—A juror: I don't think the doctor knows what he is about.—The doctor: Oh, yes, I do.—Another juror: I don't think so. I've been in the Army Medical Corps and know a little.—The doctor: And I've been an army surgeon.—Another juror: Are you a doctor?—The doctor (indignantly): Most decidedly.—The foreman: Well, you are a funny one. (Laughter.)—A juror: I don't think he knows where he are. (Renewed laughter.)—The coroner said that the doctor was a duly qualified man and was giving the jury his opinion.—Eventually the doctor said that the cause of death was natural.—A juror: At last! (Laughter.)"

M. D. E.—It is, of course, impossible for us to decide upon the merits of the diagnosis not having seen the case, but accepting our correspondent's account of the signs and symptoms there can be no doubt that he was correct. The second medical man appears to us to have not been well advised in his conduct of the matter. It was not his fault that his experience in this particular direction was small, but it is to be regretted that on so small an experience he should have founded a direct contradiction to his senior and should not have made a representation to the parents of the patient that a third opinion was necessary to decide between the opposing diagnoses.

Final M.B.—Our correspondent's time is too short if we are to understand that he is intending to commence reading now. Erichsen's Surgery, Taylor's or Osler's Medicine, Luff's Jurisprudence, Green's Pathology, Mitchell Bruce's Materia Medica, and Lusk's Midwifery are recommended, but each might be supplemented with advantage by other text-books.

"A NEW CIGARETTE" (*sic*).

MESSRS. DRAPKIN AND MILLHOFF, of 27, Commercial-street, E., send us some specimens of "a new cigarette" which is said to be free from irritating properties. The cigarettes, while cool-smoking and devoid of pungency, are, judging from the pleasant aromatic character of the smoke, composed of selected leaf of the Dubec type. They do not strike us as possessing any marked advantage over many well-known brands, the good quality of which is probably dependent also upon the selection of superior leaf.

L. B. S.—We see nothing offensive whatever in the circular. It is stated at the top to be "Addressed to Medical Practitioners" only, and the process is so clearly auxiliary in many ways to the duties of the practitioner that it is right that facilities for its application should be placed within his reach.

SOME QUERIES.

To the Editors of THE LANCET.

SIRS,—Will any of your readers kindly answer the following questions?—What proportions of liniments of aconite, belladonna, and chloroform are most useful to make the A.B.C. liniment? How is it best applied and in what cases most suitable? Which is the most useful chloroform inhaler and which the best chloroform drop-bottle for a general practitioner? I am, Sirs, yours truly,

May 18th, 1896. SURGEON.

WE have received from Messrs. Reynolds and Branson a hammer which should recommend itself to practical pathologists with highly endowed sensibilities. It is for use in making a necropsy, and has a head protected with a mass of resilient indiarubber so that strokes upon the chisel will be silent.

Drugs.—No medical right would be thereby infringed.

INFECTION AND FEAR.

WE extract the following from an American journal:—

> "A story has been told at times during the past ten years in this city of a resident who, imagining he was ill, went to bed, and when told by the physician who had been summoned to attend him that nothing was the matter with him replied that he was sick, he knew he was sick, and would be dead in less than a week. He fulfilled his prediction by dying. Another case, somewhat similar, was told on Friday. A young man residing in the Ninth Ward has the measles, and caught it by imagination. His home is in the country, where he went a fortnight ago. A brother at that time told him how he had been exposed to measles over a month before and of his luck in escaping contagion, and when the young man, who boards in the city, returned he told his shopmates about his brother, adding that he felt sure he would take the disease. Every day he brooded over the matter, saying he knew he would get it, as it was just his luck, and sure enough he did get it, and is now ill at his boarding-house with the old-fashioned measles."

ERRATA.—In the letter on "Jenner and His Work" in THE LANCET of last week, the following corrections should be made in the extract from Sir John Simon's Vaccination Report, 1857:—page 1388, column 2, line 44, instead of "formally" read *formerly*; line 64, instead of "immortal" read *mortal*; line 72, the sentence should close with "fruitful" and a new sentence should begin with "To arm."—Mr. C. H. W. Remmett, the inventor and manufacturer of Lamp No. 4, referred to in our article on Safety Paraffin Lamps last week, writes to say that his present address is 37, Tarn-street, Newington-causeway.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Northampton Mercury, Wolverhampton Chronicle, Eastern Morning News, Leicester Post, Bury Guardian, Ayrshire Post, Times of India, North Star, Bradford Observer, Civilian, Pioneer Mail, Birmingham Post, Sheffield Weekly Independent, South Wales Daily News, Sussex Daily News, Jackson's Oxford Journal, Mid-Surrey Gazette, Scotsman, Architect, Birmingham Gazette, East Anglian Daily Times, Yorkshire Herald, Builder, Western Morning News, Goole Times, Hampshire Independent, Southampton Times, Liverpool Daily Post, Llandudno Directory, Brighton Argus, Derbyshire Advertiser, Yorkshire Post, Sanitary Record, Reading Mercury, Bristol Mercury, West Middlesex Standard, Leeds Mercury, Weekly Free Press and Aberdeen Herald, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, City Press, Good Health, Family Doctor, Liverpool Review, Gloucestershire Chronicle, Macclesfield Courier and Herald, Surrey Advertiser, Local Government Journal, Chicago Dispatch, Dereham Standard, Lincolnshire Echo, Devon and Exeter Gazette, Freeman's Journal, Oban Times, Leyton Independent, West Middlesex Advertiser, Norwich Mercury, Carnarvon Herald, St. Andrews Citizen, Bedford Standard, &c., &c.*

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U.—University College, Liverpool, Dean of.

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W.—Dr. C. Weber, Hamburg; Dr. G. Wilson, Warwick; Mr. R. C. Wakefield, Lond.

Y.—Yorkshire College, Leeds, Dean of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. A. E. Ash, Stokesville; Mr. H. G. Anderson, Stapenhill.

B.—Dr. W. A. Bryant, Hull; Dr. L. S. Beale, Lond.; Dr. P. M. Braidwood, Amersham; Dr. W. J. Brock, Edin.; Mr. T. F. Brown, Manea; Mr. C. Birchall, Liverpool; Mrs. L. A. Brooks, Grays; Messrs. Blondeau et Cie, Lond; Bootle Borough Hosp., Sec. of; Bonus, Lond.

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E.—Brig.-Surg.-Lieut.-Col. Elliot, Bodmin; Eastbourne, Lond.

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Q.—Quidnunc, Lond.

R.—Mr. A. E. Read, Hednesford; Mr. A. C. Roper, Exeter.

S.—Dr J. Swanson, Glasg.; Mr. J. Thin, Edin.; Mr. H. W. Scriven, Lond.; Smedley's Hydro. Establishment, Matlock, Sec. of; Sunderland Infirmary, Sec. of; Stamford-hill Dispensary, Sec. of; Surgeon-Captain, Lond.; Scotia, Lond.; Statim, Lond.

T.—Mr. H. E. Trestrail, Glasg.; Messrs. Thompson and Gibson, Launceston.

U.—Unqualified, Lond.

V.—Mr. A. R. Verity, Garndiffaith; Vendor, Lond.; Viginti, Lond.; Ver, Lond.

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X.—X. Y. Z., Lond.

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The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Terms for Serial Insertions may be obtained of the Manager, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

ADVERTISING.

Books and Publications	... Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6
First Page (under Contents) when space available		
(Books only)	Five Lines and under	0 5 0
	Every additional Line	0 1 0
Quarter Page		1 10 0
Half a Page		2 15 0
An Entire Page		5 5 0

Terms for Position Pages and Serial Insertions on application.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to fictitious names or initials only.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière Asnières, Paris.